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THE ROTATORY THEORY
OF STORMS.

The Author, in making his acknowledgements to those gentlemen who have rendered him so much service in the compilation of the materials of this work, has further the pleasure of informing them, that since Page [illegible] was printed he has received such promises of assistance in his future labours, that he proposes forthwith to collect materials for

AN INQUIRY

INTO THE

EXTRA-TROPICAL WINDS

of the SOUTHERN INDIAN OCEAN

during the Months of

JANUARY—MARCH, 1853.

Oxford and Cambridge Club,
Pall Mall, London.
May 1852.

A MEMOIR

ON THE

EQUINOCTIAL STORMS

OF

MARCH—APRIL, 1850;

AN INQUIRY

INTO THE EXTENT TO WHICH

THE ROTATORY THEORY

MAY BE APPLIED.

By F. P. B. Martin, Esq. M. A.

"Thou breeze, thou sea-born breeze
That o'er the foaming deep
Dost to its haven speed the gliding bark."

Presented by the Author.

1852.

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of Geo. Eastwood.

IMPENSIS SUIS
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AUCTOR IMPRIMEBAT
E TYPIS
THOMÆ PATCH
AA.D. 1851—52.

TO THE RIGHT HONOURABLE

SIR FRANCIS T. BARING, Bart.

late First Lord Commissioner of the Admiralty.

Sir,

When it pleased Her Majesty to appoint you Successor to Lord Auckland, that you might replace to the Service the loss which it had sustained by his decease, you found my dear friend and relative, the late Sir Francis Collier, in the high and distinguished post of Commander-in-Chief of H. M's. Naval Forces in the East Indies. Your acquaintance with him was merely the recollection of former electioneering contests and of political hostility, but instead of visiting the Officer for the offences of the Partisan, you took the earliest opportunity of tendering to him the promise of your official support and favourable consideration, and of assuring him that no political or personal feeling should ever interfere with your official duties or communications. These generous principles you evinced towards him during the brief remainder of his life, and when he was taken from us by an early and untimely death, you testified your respect for his memory by promoting, not *only those in whom he was interested from personal affection, but others whose sole claim upon his consideration was the zeal and ability they had shown in executing his instructions, and in endeavouring to promote the interests of his Country.*

I feel deeply how much I am indebted to his honoured Memory, and to the respectful attention with which his name was welcomed, for the facilities I have received in collecting the materials for the compilation of this work. Next to the permission given me by the Board of Admiralty to copy their Logs, and to use their name as my authority in my researches elsewhere, I have found my best friends and most zealous supporters among those whose earliest days of service were passed under his command, or whose more matured experience had taught them to value and esteem him. To you therefore, Sir, as to one who appreciated his worth, I beg in humble and grateful acknowledgement to dedicate these pages, whose chief charm to myself is, that they owe their origin to the suggestions of him whose ruling passion was to promote the honour and welfare of that Service whose reputation he was enabled to sustain by his confidence in the impartiality of your administration.

I have the honour to remain, Sir,
With every sentiment of respect,
Your most obedient Servant,
F. P. B. MARTIN.

May 1st, 1852.

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ON THE

ROTATORY STORMS

OF THE

NORTH ATLANTIC OCEAN.

"On Saturday night the 30th of March in a heavy gale of wind the Royal Adelaide Steamer from Cork for London, was lost on the Tongue Sand off Margate, and all the crew together with a large number of passengers perished."

The impression produced by this melancholy casualty on the minds of the numerous and intelligent class of men connected with our Mercantile Marine was calculated to predispose them towards the execution of a project I had formed for tracing, from its commencement to its conclusion, the gale which is usually felt along our coasts at the time of the Spring Equinox; and agreeably with my expectations I received from various individuals, both public and private, the most prompt and cordial co-operation; and I beg to tender them my best thanks for the assistance they have rendered me in the prosecution of my researches. It would occupy too much space were I to enumerate them here, but as I have generally added to the Logs of vessels a reference to the authority by which each has been communicated, I trust I shall be excused if by any accident I should appear to have passed over the name of any kind friend to whom I am indebted.

I feel however especially bound to acknowledge the courtesy with which Lord Viscount Palmerston, Secretary of State for Foreign Affairs, facilitated, through Her Majesty's representatives abroad, the application which I addressed to the scientific gentlemen on the Continent, whose valuable contributions have enriched this memoir with some extremely interesting and important details.

My attention had formerly been drawn to the study of Nautical Meteorology by my relative, the late Rear Admiral Sir Francis Collier, during the summer of the year 1846, whilst I was his guest in H. M. S. St. Vincent, at that time bearing his broad pendant as Senior Officer of the Squadron of Evolution. So important a branch of practical science as the then recently proposed theory of Rotatory Storms in our own Latitude could not fail to interest deeply one whose feelings and energies were so entirely devoted to the profession, of which I may be permitted to say that he was a zealous and distinguished member. Other more pressing occupations at that time prevented me from fulfilling his wishes, but in the month of February 1850, the perusal of Col. Reid's works on the Hurricanes of the Tropics led me to reflect on the subject of Rotatory Winds, and on the "Laws of Storms" deduced by him and by other writers from facts elicited in the course of their inquiries, by which several important principles were established in regard to Hurricanes within the Tropics—

Firstly, That they are not straight winds but Rotatory, and that they blow in a circle, having a centre on which they turn, so that vessels on opposite sides of that centre have the wind in contrary directions.

Secondly, That they are Progressive, and that according to their locality they advance conformably with a certain invariable Law of Nature, so that the track and probable duration of any one of them may be ascertained by observing the veering of the wind.

Thirdly, That within the Tropics these Hurricanes travel from East to West, and that if the wind veers from left to right in the same manner as the hands of a clock move, viz. from North to East, and from East to South, a vessel is in the right hand semicircle of the storm's track; but when the wind veers in the contrary way from right to left, or in nautical language, backs, the vessel is in the left hand semicircle.

Fourthly, That by so observing the veering of the wind, the master of a vessel may so shape her course as to draw her from the centre of a storm, or to plunge her more deeply into it, at pleasure.

Lastly, To enable seamen to avail themselves of the above principles, directions for their guidance have been laid down, the correctness of which daily experience confirms and establishes.

The consideration of these principles presented this question to my mind. If portions of the atmosphere within the Tropics, when set in motion by expansion, acquire a progressive and rotatory power, and in obedience to a fixed law of nature invariably rotate in the same direction, at what distance from the Equator do they cease to be subject to that law of nature? If the diurnal motion of the globe causes the winds to rotate within the tropics, why not beyond the tropics? And if this rotatory property of great gales be not limited to the surface of one portion only of the globe, but universal in its extent, to what precise description of gales is it to be considered applicable? If in a heavy gale the wind changes in accordance with a certain well established theory, why not in a gale less severe? or even in a very strong breeze? or even in one less strong? At what precise force in short does wind cease to be subject to this law of nature? If the seaman off Bermuda anticipates correctly the force, direction, and duration of the wind for hours to come, why not as well when he is off Madeira or the Azores? Why not off New York, the Coast of Portugal or Ireland? Why need he run into certain danger in one part of the world more than in another? Surely "if the wind follows a fixed law, it can require no comments to point out that much advantage may be gained by a knowledge of that law."

For the solution of these questions I devoted several weeks to the careful observation and comparison of the atmospheric currents in the months of February, March, and April, of the year 1850, my observations being taken near Dorchester (about 16 miles North of Portland Light-house) in the open air, on a high commanding situation, where a low and distant horizon afforded great facilities for estimating the approach and tracks of the various atmospheric currents. The result is a settled conviction, that *subject to the varying modifications of local influences* THE

LAW OF STORMS is Universal, Semper, ubique, et ab ommibus.

In this memoir I propose to consider the weather which was experienced during the space of 25 days, from the 28th of March to the 21st of April, which exhibits a succession of currents varying in extent and force. Having proposed an inquiry into the course of only one Storm, I have extended it to nearly a month, and although I endeavoured to avoid minute and unimportant details, I have found my materials increasc upon my hand to a degree the mere contemplation of which at the outset would I fear have deterred me entirely from my task. But I shall consider my trouble amply rewarded should I appear to have succeeded, as I trust I shall, in my attempt to throw some light upon the nature and causes of atmospheric currents.

The mode in which I propose to set forth the conclusions of my investigation is to take the successive fluctuations of the Barometer with the detail of weather prevailing during each period, and to show, as I think I shall be able to do, that each fall and rise of the Barometer was connected with, and caused by, the passage of an atmospheric current, and by tracing backwards these atmospheric currents to establish that each one of them was a Rotatory* & Progressive Storm; and consequently should it appear that all the Winds during 25 days, though varying in their direction and force and in the weather which attended them, were Rotatory and Progressive Storms, I think I shall be entitled to assume an antecedent probability in regard to any other 25 days, that all the winds which prevailed in England during their lapse also were Rotatory and Progressive Storms. Nay more; if this may be assumed antecedently of any given 25 days, why not of a longer period? Why not for 50 days, or 100? or a whole year?

---

* With a view of clearing away a misconception in respect to the term Rotatory, as applied to the revolving Atmospheric Currents of Extra-tropical Latitudes, which appears to exist in the minds even of experienced seamen, and is certainly very generally entertained amongst those who have not much studied this subject, I would premise that although these Gales consist of a Storm's-eye, a central calm, frequently of very considerable diameter, the wind blowing round that centre is not of the same force at every portion of the circumference equally distant from that centre. More than one instance will occur in the following pages of Steamers having crossed the track of very violent Hurricanes without encountering any bad weather, or even but for the barometrical depression, having had reason to suppose it to be near. Neither does the term mean that a Storm is *circular* in the strict mathematical acceptation of the word, as though the Central Storm's-eye were equally distant from every point of the circumference at which its force is the same, inasmuch as the area of the Storm, whilst advancing, expands, but unequally, and this inequality arises from the diminished pressure of the atmosphere on the rear quadrants of the Storm: as the Vortex moves forward, it draws within its influence the atmosphere in advance of it with a steady equal operation; but as that portion in the rear of it does not collapse and subside with the same regularity with which it was set in motion, a current parallel to the axis of advance will frequently be found to blow on the left hand semicircle for some time after the body of the Storm has passed, to which subject I propose to revert in the second part of this Memoir.

For my own part the settled conviction on my own mind has been produced by this inquiry, that the Law of Storms is of universal application, unless where modified by locality, or by sudden and exceptional convulsions of nature. To discuss these exceptions would be foreign to my present inquiry, but with a view to elucidate and establish the extent of applicability of this great law, I have caused minute and frequent observations to be taken for a period of time extending over several months, to illustrate and account for the fluctuations* of the Barometer which I propose to make the ground work of an inquiry, towards which I have received a mass of interesting and exact details, including not merely Logs of Ships, but also observations of the time at which the Barometer began to rise,† taken at different stations of this Island, for the express purpose of noticing the passage of Currents, in which inquiry I hope to receive the co-operation of such of my readers as may deem it worthy of interest.

---

* With much deference to the opinion of those, with whom long experience serves instead of argument, and appreciation of the advantages of any approved system counterbalances any innovating suggestion for the extension of science, I would observe that the practice of noting and recording the indications of the Barometer *at fixed hours only*, to the neglect of intermediate fluctuations, fails in precision as to the particular point in which accuracy is most required. In hurricanes within the tropics, and indeed *at sea even in our own latitude*, the greatest depression is always considered to coincide with the period of greatest danger, and as soon as the fluid in the Barometer begins to rise, the worst of the Storm is supposed to have passed; but ashore nothing of the kind is regarded, and the mere abstract fact that at certain hours, probably far apart, the Barometer indicated a certain amount of atmospheric pressure is "sat sapientibus." In contradistinction to which system, I would call attention to the regulations of the R. M. West India Steam Packet Company, whose Logs rival in accuracy those kept under the authority of the Admiralty, and in point of scientific minuteness and interest surpass even those of "The Peninsular and Oriental"; and it must be a subject of much satisfaction to persons interested in the progress of scientific inquiry, that in the records of these two Companies such valuable materials are preserved for future inquiries, and of regret that so few are found to follow such an example, but as the Junior Officers in their service now rising to manhood attain that influence in their profession to which their abilities and education entitle them to aspire, I trust that ere long among things forgotten will be numbered "Barometrical Observations taken twice a day."

† I have much pleasure in acknowledging the readiness with which the Corporation of the Trinity House has entered into my views on this subject, in permitting their Light-keepers to carry out my wishes so completely to my satisfaction.

But to resume my subject I proceed to give a

TABLE OF OBSERVATIONS

TAKEN NEAR DORCHESTER, 16 MILES NORTH
OF PORTLAND LIGHT-HOUSE, LAT. 50,45 N LONG. 2,25, W.
FROM MARCH 22nd, TO APRIL 21st, 1850.

The abbreviations in this Table are those adopted by the Admiralty, and the Explanations will be found at Page vi. of the Appendix.

Day.	Hour.	Bar.	Wind.	Force.	Weather.
Mar 22nd	10	29.75	W	6	o
23rd.	6	.40	W	8	c q u
	9		NW	9	u c s
	11		NW	9	b c v
	2		NW	9	
	4		NW	9	
	5.25		NW	9	S
	10	.45		4	Clear.
24th.	6	.47	NNW	4	b c v
	1		NNW	3	b c v
	6		NNW	3	b c v
	10	.55		3	
25th.	6	.57	NNW	2	b v
	11		NW	3	b c
	1		NW	3	u c
	3.30		NW	5	s u o
	6		NW	3	
	10	.57			
26th.	6	29.57	W	1	b m
	10		SW	3	b c u m
	2		SSW	3	c g s
	6		S	4	u c b
	10	.57			o

	Day.	Hour.	Bar.	Wind.	Force.	Weather.
	27th.	Night.		Heavy fall of Snow.		
		6	.67	N	2	o s
		11		N	4	b c
		1		NNE	5	b c m
		6	.75	N	4	b m
	28th.	6	.90		1	b m
		12			1	b c m
		6	29.92	S	2	b
Storm *A.*	*29th.*	6	.93	SE	5	b m v
		11		ESE	6	b m v
		6		ENE	6	o m
		Night	.80	Very rough & overcast		
	30th,	6	.60	ENE	10	o
		12		ENE	10	o m
		3		E	6	b c m
		6	.45	E	6	o
	Sun. 31*st.*	6	.50	S	4	b c m
		9		S	4	c
		1		S	2	b c
		6	.53	S	1	b c v u
	April 1*st.*	6	29.40	SE	4	o p
Storm *B.*		10		E	6	o
		2		E	10	o
		6		E	8	o m r
		Night	.10			Heavy rain.
	2nd.	6	.00	S	5	c p
		12		S	5	b c p
		6	.00	S	5	b c g
		10	.05			
	3rd.	6	.20	S	4	o m p
		12	29.20	S	6	o m r
Storm *C.*		6		S	8	o r q
		Night	.10	Very wet,	9	& rough
	4th.	6	28.88	SSW	8	o m r q
		12	.95	SSW	8	o m r
		3		W	8	c m p u q
		Night				Very clear.
	5th.	6		W	5	b c m
		12	.67	NW	4	b c v
		4		W	3	b c v

	Day.	Hour.	Bar.	Wind.	Force.	Weather.
		10	29.75			Clear.
Storm *D.*	*6th.*	6	.63	S	3	opdm
		10		S	3	bcm
		2		S	3	bc
		6	29.64	S	3	o
Storm *E.*	*Sun. 7th.*	6	.56	S	2	om
		1		S	2	bgm
		6	.45	S	2	cgv
	8th.	5		S	1	o
		10.30	29.25	S	2	ouvp
		12	.17	S	3	opu
		4		SE	4	ou
		Night	.17	Very wet & rough.		
	9th.	6	.17	S	7	ompd
		11		SW	7	omp
		1		S	7	opm
		Night	.28	W	3	od
	10*th.*	6	.30	SE	4	bcv
		12		SE	4	bcv
		3	29.30	E	6	bc
Storm *F.*		Night	.02	Very rough & windy.		
	11*th.*	6	.10	S	4	opdm
		12		SSE	4	bcm
		3		S	4	bcuP
		7	.30	S	2	bcv
	12*th.*	5		SSE	1	bcv
		10	.50	S	1	bcg
		12		S	1	PR
		3			0	bcup
		4			0	Thunder.
		5			0	UP
		6			0	C
		Night	.60			Very clear.
	13*th.*	6			0	f
		10	29.65	S	1	bcg
Storm *G.*		12		S	1	o
		2 to 5		S	1	r
		6				UVb
		Night	.60		5	Clear.
	Sun. 14*th.*	6		W	1	bcv
		9	.68	W	1	bcuv

	Time.	Bar.	Wind.	Force.	Weather.
	1	29.68	SW	2	om
Storm *H.*	6		S	4	bcm
	Night	.56	Very wet and windy.		
	15th. 6		S	5	or
	10	.20	SW	6	bcm
	1		SW	8	
	4		SW	6	bcmq
	7		S	6	omq
Storm *I.*	Night	29.10	Stormy & boisterous.		
	16th. 6	.00	W	8	ompdq
	12		S	8	omprq
	2	28.90			
	4	.90			
	6		S	8	omprqu
	Night	29.10			Rainy.
	17th. 6	.40	SSW	5	bmpdru
	12		SSW	5	ompru
	6		SSW	3	bgmcu
	7				bcv
		.70			
	18th. 6	.85	W	3	Bcv
	10		SSW	3	bcv
	1		SSW	3	bcgv
	6	29.92	SW	4	bcv
Storm *K.*	*19th.* 6	.87	SW	4	om
	9		SW	4	orm
	1		SW	4	odrm
	6		SW	5	orf
	Night	.75			Rainy.
	20th. 6	.60	SW	6	bcv
	12		SW	6	ompd
	6		SW	6	ompd
	Night	.48			Fine.
	Sun. 21*st.* 6	.30	WNW	3	bcv
	1		WNW	3	bcugm
	6		WNW	2	bcum
	Night	.53			Clear.
	22*nd.* 6	.70	N	4	bcv
	12		N	2	bcv

The reader is requested to correct the Barometrical Observation of Noon April *5th* to 29,67. And to omit (29),25 at 10,30 April *8th*.

CHAP. I.

STORMS A. K.

The weather during the month of March, from the 5th to the 22nd, was extremely different from that usually experienced, being pleasant and without any violent winds; the barometer standing above 30.00 and undulating gently from 30.40 after the great Storm of the 3rd to 30.05 on the 10th, to 30.40 on the 13th, and between the 13th and 22nd, fluctuating to and fro from 30.40 to 30.00. On the 20th, the sunset was the brightest I ever beheld in England, so much so that my assistant observed it and called me out from dinner to witness it. Whether there was any connection between the peculiar light, and the heavy Snow Storm then approaching from the Westward, I do not pretend to give an opinion, but on the 22nd the wind shifted suddenly to the NW, with an intense degree of cold, and heavy falls of snow occurred in the Northern parts of this Island, continuing at intervals till the 27th. These Snow-storms having passed away, the 28th and 29th were beautiful, fine, Spring days, and on the afternoon of the latter, I perceived a long low rim of grey cloud along the Southern horizon the precursor of Storm A, which I shall now proceed to trace briefly, referring the reader to the authorities in §§ I.-IV. of the Appendix, of which for facility of comparison I here give a summary

---

* These observations represent the extremes of daily fluctuation, unless otherwise stated, being taken from an early hour of the morning until late at night.

	March 28*th.*	6	29.92	S	2	b
	29*th.*	6	.93	SE	5	b m v
		11		ESE	6	b m v
		6		ENE	6	o m
		Night	.80	Very rough		& ł overcast
STORM *A.*	30*th.*	6	.60	ENE	10	o
		12		ENE	10	o m
		3		E	6	b c m
		6	.45	E	6	o
	Sun. 31*st.*	6	.50	S	4	b c m
		9		S	4	c
		1		S	2	b c ⁊
		6	.53	S	1	b c v u

in the order in which they will be found there.

For Log of	From	To	See
Wellington,	March 22,	March 27,	Page xii.
Canada	23,	30,	xiii.
Prince Albert	23,	27,	—
Velocity	25,	26,	xiv.
Hendrik Hudson	25,	29,	—
Washington	27,	30,	—
Northumberland	25,	28,	xv.
Hermann	26,	29,	—
Europa	27,	29,	xvi.
Harmony	26,	30,	—
Teviot	27,	30,	—
Wellesley	25,	30,	xvii.
B B Greene	26,	30,	—
Sea Park	28,	30,	xviii.
Columbine	26,	30,	—
Onward	26,	30,	xix.
Camperdown	26,	30,	—
Lord Petre	26,	31,	xx.
Griffon	25,	31,	xxi.
Nautilus	27,	30,	xxiii.
Alert	27,	30,	—
Randolph	28,	30,	—
Madagascar	26,	29,	xxiv.
Brilliant	27,	31,	—
Pottinger	29,	30,	—
Pacha	29,	31,	—
Montrose	28,	31,	xxv.
Euxine	29,	31,	xxvi.
Lusseau	29,	30,	xxvii.
Rollo	27,	31,	—
American Congress	28,	29,	—
Ocean	29,	31,	—
Crocodile	28,	31,	xxviii.
Badger	30,		—
Amphitrite	29,	31,	—
Eliza	27,	31,	xxix.
Chance	28,	31,	—
Stag	28,	April 1,	—
Duke of Cornwall St.	28,	March 30,	xxx.
Preussicher Adler	28,	30,	—

Screw St. Shamrock	March 28,	March 31,	xxxi.
Foyle	29,	30,	—
Shamrock	29,	31,	—
Duke of Cambridge	29,	31,	—
Maiden City	28,	29,	—
Victory	29,	30,	xxxii.
Blenheim	28,	31,	—
Sir Francis Drake	28,	29,	—
Express	29,		—
Courier	29,	30,	—
Royal William	28,	31,	xxxiii.
Ajax	28,	30,	—
Severn	30,	April 1,	
Clarence	30,	March 31,	—
Malcolm Brown	29,	April 1,	—
Rose	29,	March 30,	—
Sir E. Banks	30,		—
Victoria	30,	31,	xxxiv.
Waterwitch	29,	31,	—
Earl of Aberdeen	30,	April 1,	—
Vivid	29,	March 30,	—
City of Hamburgh	29,	April 2,	—
Adelaide	30,	March 31,	xxxv.
City of London	29,	April 1,	—
Queen	30,	1,	—
Sir Wm. Joliffe	30,	March 31,	—
Roscommon	30,	31,	xxxvi.
Batavier	31,		—
Rhine	30,	31,	—
———	30,		—
Sir Robert Peel	30,	31,	—
Soho	31,	April 1,	xxxvii.
London Merchant	30,	1,	—
Gazelle	31,	2,	—
Apollo	29,	March 31,	xxxviii.
Countess of Lonsdale	29,	April 3,	—
Vulture	31,	5,	—
Siren	31,	5,	—

This Storm appears to have travelled down the valley of the St. Lawrence, and to have passed over Toronto on the 24th, and over Prince Edward's Island on the 25th, at which place it produced a considerable depression of the Barometer equal to six-tenths of an inch in the twenty-four hours.

The Wellington running with it from the 24th to the 26th had a strong Westerly gale at a time when further to the Northward it does not appear to have exceeded a strong breeze. The log of the Prince Albert further to the Eastward marks well the progress of the Storm with the period of the changing wind. Bound to the Westward, she had to contend against a current, which though steady and favorable to the Wellington veered with her from SE to S, to SW, to W, to N, and to E.

Whilst the Prince Albert was contending against a heavy gale from S and SW, the R. M. Steam Ship Canada, crossing the tracks of the Europa, the Hermann, and the Northumberland, carried the Storm along with her until the 30th, in 18 degrees of W Longitude. I much regret that I have been unable to obtain a copy of her Barometrical Register, but from a comparison of those of the above-named vessels, and especially of the Europa's at that time about 2 degrees to the Northward of her, I have no doubt these two Steamers must have been nearly midway in the central Storm's-eye on the 28th. At this time, when the Lord Petre and Griffon were beginning to experience the gale at S and SW with a rapidly falling Barometer off the West of Ireland, the Columbine off St. Michael's and the Wellesley further to the NW had a very heavy sea and wind inclining to the Northward; and the Northumberland in 43 W under close-reefed topsails had a gale at N of NW. As it is no part of my plan to trace consecutively from day to day the precise* positions occupied by the centres of the Storms which we are about to discuss, it is sufficient for my purpose to show that the facts to be elicited from the Logs above referred to, coincide entirely with those properties which mark the rotatory and progressive hurricane of the Tropics.

As the track taken by this Storm lay so far to the Northward of the usual course of vessels trading between America and Europe, I have not met with any data to enable me to ascertain the extent of its left-hand hemisphere, before it approached the shores of this country. But from Noon of March 28th, when its centre was about 30 degrees of West Longitude, and 50 of North Latitude, until it reached the shores of Russia, passing up the Gulf of Bothnia on the 3rd of April, I think that the curious reader may lay down for himself very closely the direction taken by the Storm, the area over which it extended, and also the spherical line of curvature along which the violence of the wind more particularly swept as the inclined plane of atmospheric current moved up the British Channel. From the circumstance that the 30th and 31st fell on Saturday and Sunday, on which days the greater part of the Steamers were at sea which run between the home ports and those of the Channel, I have been enabled to collect a great mass of evidence which will be found in Section IV. of the Appendix, illustrative of the effects produced by this Storm on portions of the narrow seas, and along their coasts, which otherwise might have been lost to science. One most interesting point connected with the investigation of the track of Storms is the effect produced by one on that which follows after*. It may be shown that the Storm which passed over England on the 26th and 27th, travelled off to the N and E concluding with a strong NW wind; the present Storm therefore on overtaking it swerved from its course, travelling to the Eastward over Holland and Germany, and was lost as I imagine over the great plains of Russia.

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* The detail would be infinite, and the result totally disproportioned to the time and trouble, and possibly involving many seeming contradictions, which if they produced no other effect, would certainly disgust my readers at the very outset, were I to make any such attempt. I propose however at the conclusion of each Storm to shew such a line of each day's advance, as shall fairly appear consistent with the authorities relative to each Storm.

Resuming its position from the 28th, we find that on the 29th, the Canada had the gale in heavy squalls NNW, the Wellesley at WNW, the Camperdown at WbyN, the Randolph at SWbyW, the Pacha an increasing breeze at SW, the Montrose a fresh gale with heavy cross sea at SSE, whilst the Lord Petre in the afternoon, with a hurricane of wind and rain at Southward, and a Barometer falling steadily from 29.90 to 28.70 lay to in Lat. 50.00 Long. 15.35 in the very line of the Storm's advance.

But the position of the centre of the Storm appears to be most clearly defined on the 30th, by a reference to the Log of the Griffon. From a hurricane (wind 11½ SbyE, and very heavy squalls,) at noon on the 29th, the wind subsided, and the Barometer fell gradually to 28.55 at 7 p.m. of the 30th, when blue sky, open detached clouds, and gentle breezes at SSE and S which shortly afterwards became a calm, succeeded by a breeze at WNW increasing throughout the night to a moderate Westerly gale, sufficiently indicate that she must then have been in the Storm's-eye. At this time the gale lay with its greatest force along the East of England and Scotland.

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* Of this instances will occur repeatedly in the following pages, it is therefore unnecessary to discuss them here; but should this assertion be well founded in regard to the subsequent Storms under consideration, I trust to be excused for *assuming it to be true in the present one also.*

The irregularities in the direction and force of the currents, which were thenceforth produced by the high lands of Europe, would naturally be an obstacle and stumbling block in the way of persons who conceive a Rotatory Storm to be circular, having the wind in all its parts of equal force, and blowing in a direction conformable to its supposed centre, but we nevertheless find that with a sufficient allowance according to the locality of the points of observation, the general rotatory and spherical direction of the Storm coincides with the track which I have laid down. For instance over England and Scotland, Holland and Northern Europe, the direction of the wind was from SE backing, i. e. veering towards E, whilst over Germany which was in the right hand semicircle it was from S veering by W. It will be observable that although the greatest violence of the storm in Great Britain was from the SE, it began to blow heavily at a later hour as we move up the channel; for instance on the 29th it was felt off the Land's End at its greatest force by the Duke of Cornwall at Noon in 5.42 W; along the coast of Dorsetshire and in Jersey in the night of the 29th and the morning of the 30th, and on the east Coast of England at Midnight of the 30th. At Brussels the Barometer on the 31st appears to have fallen to the minimum of that day in the afternoon, and the wind calmed at ESE and SE, and it continued so throughout that day and the next, with the Barometer rising, as though the high ground of France and Spain had lifted up the hinder part of the storm and caused it to rest with a greater pressure at a considerable angle of inclination over Scotland and the German Ocean, where it continued to blow a gale for some hours later than in the other parts of its area.

A comparison of the different meteorological observations taken on the Continent will show that though this atmospheric current was not felt with any great degree of strength over central and northern Europe between the 31st of March, and the 3rd of April, yet that a progressive depression and subsequent rise of the Barometer took place during those days over the entire area to which they extend. Among the many learned Professors and followers of science who have so freely and courteously placed at my disposal the results of their philosophical observations it may be invidious to select; nevertheless the precision and frequency of the details of my Munich correspondent claim an especial place of mention. We notice in them throughout the 1st and 2nd a steady gradual decline until 8 in the evening of the latter day, the wind blowing constantly from the East though varying in pressure. In the morning of the 3rd the wind having veered round the compass to SW and W, (at the maximum of the German Anemometer 4) the Barometer rose steadily until the evening of Wednesday the 3rd. Whether any portion of the storm passed after this eastward down the valley of the Danube I have not the means of forming an opinion. At Bamberg also in Northern Bavaria on the Main, it blew heavily from SE during the 2nd, the Barometer falling, and then veered to SW and W, which indicates that the storm took a Northerly course, and a comparison of the reports from Eastern Prussia, showing that on the 3rd towards evening the Barometer for a short time rose slightly, would tend to support this conclusion. But in a country so intersected by lofty ranges of hills as Southern Germany, and so peculiarly liable to eddies from the great valleys of the Alps, it is impossible to do more than to adduce the general concurrence of observers that as the Barometer fell during the 1st, 2nd, and 3rd the wind was from the Southward. At Copenhagen, or rather at Nyholm, the greatest depression was at Noon of the 3rd, which corresponds with the observations at Bamberg, and whereas at Bamberg the gale changed from SE to SW and W, at Copenhagen it changed from SE to ESE, At Frankfort which lies midway between Munich and Copenhagen Bamberg and Brussels, the greatest fall was in the evening of the 2nd, the wind changing from E to S. I conclude therefore that this storm having arrived over the great plain of central Germany on the 1st and 2nd, and being stopped in its advance Eastward by the great wall of the Carpathian hills passed away up the Eastern shores of the Baltic and over Russia.

I have not attempted to collect data of the effects of so great a storm as this seems to have been in Bavaria, but such details had they been attainable by me might have tended to diffuse this part of my work to an undue extent, and certainly would not have been relevant to the main object of my enquiry. It is however important that I should mention that Storm *B* which was felt over England between the 31st and the 3rd somewhat severely did not reach the Continent, unless perhaps some small portion of its western limits, whereas Storm *C* lay upon it even more heavily than the present one.

Much attention has been bestowed by previous writers on the *Extent of Storms*[*] this being a branch of the inquiry which has peculiarly attracted their notice from the circumstance as I presume of their investigations having been chiefly directed to the Hurricanes of the Tropics.

The area of these being more limited they present less unwieldy dimensions than those of our own latitudes, and being chiefly confined to regions and seasons in which the prevailing winds are more constant and periodical, they render any deviation therefrom more certain to be remarked, and its duration and direction more easy to be ascertained; but as it may not be uninteresting to bring together in one view those particular points which touch upon the extent of this storm, I will take the 29th & 30th of March as presenting sufficient data for a very close approximation.

If the left hand, Northern, semicircle of this Storm was of the same extent as the right hand, Southern, one on the 29th, on which day very early in the morning the Randolph was within its influence, 17 degrees to the Southward of its central track having been be-calmed on the previous Noon, we should be able to form a very distinct idea of its diameter from North to South. The want of Logs of vessels in the Northern half of this Storm before alluded to has however to some extent been supplied by the Barometrical observations taken at Reijkjavik, in Iceland, for which I am indebted to the kindness of Lieut. Schulze, of the Royal Danish Navy. Being taken five times a day, and extending from six in the morning to midnight, they may be considered amongst the most valuable of those that I am able to present to my readers, and although they were not accompanied by any detail of wind and weather, they are extremely interesting from the light which they bring to bear upon the subject, as exemplifying the effect produced in that remote latitude by the Storms of our own.

Assuming then that the rapid fall indicated at Reijkjaviz on the afternoon of the 29th, was the commencement of this storm there, we have the diameter from 33 to 65 of North Latitude nearly 2000 miles, certainly a considerable extent; but taking the position of the Griffon at pm. of the 30th, in 52 N Lat. as the centre of the storm for that day, it will be found to extend even more widely; for it is a well known property of Rotatory Storms to increase in their advance, to spread themselves out as it were, so that certainly it had not diminished in diameter since the preceding day. If then we reckon from 35 degrees of North, (the parallel Latitude where the Randolph had a hard gale soon after Noon on the preceding day,) to 52 degrees, the position of the Griffon, and double that, we have 34 degrees of latitude to which the influence of the storm may be supposed to have reached.

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[*] I have endeavoured to distinguish between two words which are frequently used indifferently to express the same idea, though, as it appears to me, improperly. Sometimes GALE represents the force of the wind, as Strong gale, Fresh gale; at other times, as in Col. Reid's Chapter "On the great extent of Winter Gales," it applies to a certain area over which the force of the wind prevails during the passage of an atmospheric body, and is used to express that moving mass of the atmosphere in reference to the *extent* of its operation. I propose to limit the word GALE exclusively to the former sense, and for the latter to use the word STORM.

It is however somewhat remarkable that the hinder part of this storm was cut off as it were and flattened behind by the rapid approach of Storm *B*, for on the 27th, the Prince Albert, and the Wellington were becalmed in 50 W, whilst the Europa 20 degrees to the Eastward, was on the Eastern side of the storm. The diameter of this Storm appears to have expanded immensely and very rapidly if we compare its area on the 27th, and on the 30th.

It may not be out of place to add here a few directions for the reader, in explanation of the arrangement of the materials of the Appendix.

The weather is such a very important item in the daily life of all Englishmen; it forms so much the staple of all they think of, talk of, and do; their hopes and fears are so much mixed up with rain and sunshine, wind and dust, with too much of the one, or too little of the other, that probably every one will have had impressed on his memory what sort of day was the — of April, 1850; and I therefore invite attention to the pages of the Appendix relative to — day of April, that every one may see by a very brief inspection, that the atmospheric causes of his comfort or discomfort, pleasure or annoyance at any portion of time included in this Memoir, have their solution in THE LAW OF STORMS. But as I could hardly hope that any of my readers would be sufficiently enterprising to attempt to wade through the entire mass of details which I have collected, I have endeavoured to bring together the particular facts in Sections, so that any one may verify by a more speedy comparison the conclusions at which I have arrived; and each page of the Appendix being headed with the Initial Letter of the Storm corresponding with it at Pages 6—9, a glance will serve to show the Sections under which each Storm is included. Thus STORM *A.* will be traced in Part 1. §§ I. II. III. IV. IX. & in Part 2: STORM *B.* in §§ I. II. V. IX.: and so of all the rest. I have placed together in § IV. those Logs which belong to the shores of these Islands, or of the adjoining Continent, in order that they may more easily be compared with the Light-House* reports of § IX.: §§ I. II. include the observations taken in N. America, and will be of more peculiar interest to our Transatlantic brethren: The Part 2 of the Appendix will probably be the subject of comparison by the *Savans* of Continental Europe.

Some general remarks will be found in Chapter II. arising out of the consideration of all the Storms, based on the assumption that they have been proved to be Rotatory and Progressive, and that I have established the proposition with which I set out, "that The Law of Storms is of universal application:" and to these remarks I would invite the attention of those readers who are connected with the Trade between these Islands and North America.

Possibly the objection may be made that the foregoing Abstract is not sufficiently *copious*, and that I have omitted to notice a variety of points connected with the subject, which arise naturally out of the perusal of the Appendix, and that I have left too much to be inferred, which I ought to have stated prominently. But this I have done designedly, though at the risk of appearing meagre and bare, as I have preferred to leave each of my readers to draw his own conclusions, and to select such facts as may illustrate any one branch of the inquiry which he may deem more especially worthy of his attention. The effect of Rotatory Storms on Marine Currents is one of these, to which I more particularly refer, and in Chapter III. I propose to say a few words, and to offer a suggestion, which if it should be adopted might tend to increase our knowledge, and to explain difficulties.

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* In whatever order I had arranged these Light-house reports it would have been open to the objection that they did not represent correctly the connection between the passage of the different storms and their effect upon the weather. I have therefore chosen an order of arrangement from South-west to North-east as coinciding with that admitted line of movement which has been established in reference to all the storms whose courses have been traced by other writers, and shown to be rotatory and progressive, namely, from the Equator towards the Poles, and from the West to the East, and if a line be drawn from the Scilly Islands to Sumburgh Head, I think it will be found to take the places of Observation nearly in the order in which they stand in § IX. of the Appendix.

In the Supplementary Section will be found some Logs which I did not receive in time to insert in their proper positions: they will be arranged in such a manner that at the option of the binder they may be inserted as fly-leaves in their respective order.

I beg to disclaim all attempts *at laying down the law* upon points of seamanship; it would be highly presumptuous so to do. I have merely endeavoured to collect faithfully and set forth fairly the information which circumstances have brought within my reach, so that those great benefactors who have led us thus far in our knowledge of Meteorological Phenomena might find herein some additional materials for future development of their system. With all my anxiety and care to prevent errors, some few, (of a trifling nature I trust however,) escaped observation until it was too late to rectify them; the most important will be noticed, and pointed out for alteration, at the conclusion.

Probable Track of Centre of Storm, and position on the following days.

		Lat.	Lon.
March 24th,	North of Toronto, Canada	48	80W
25th,	North of Charlotte Town, Prince Edward's Island,	50	63
26th,		51	50
27th,		52	41
28th,		52	32
29th,		52	22
30th,	7 pm.	52	16
31st,	3 pm. Brussels.		
April 1st—2nd,	Over Hanover and the Hartz Mountains,		
3rd,	Passing up the Gulf of Bothnia between Copenhagen and Memel.		

I shall now proceed to consider the Sections in the Appendix which have reference to Storm *B*.

STORM *B*.

MARCH 31st.—APRIL 3rd.

For Log of	From	To	See Page
Margaret Evans	March 29,	March 31,	xxxix.
Velocity	26,	31,	—
Prince Albert	27,	31,	—
Queen of the West	28,	April 1,	xl.
Wellington,	27,	March 31,	—
Northumberland	28,	31,	xli.
Hermann	29,	April 1,	—
Europa	29,	1,	xlii.
Hendrik Hudson	29,	2,	—
Sea Park	30,	1,	xliii.
Onward	30,	2,	—
Madagascar	31,	2,	—
Brilliant	30,	3,	xliv.
Randolph	30,	3,	—
Alert	31,	2,	xlv.
Teviot	30,	3,	—
Columbine	30,	3,	xlvi.
B B Greene	30,	2,	—
Harmony	30,	2,	—
Wellesley	30,	3,	xlvii.
Camperdown	30,	2,	—
Lord Petre	31,	3,	xlviii.
Ocean	31,	3,	xlix.
Rollo	31,	3,	—
Griffon	31,	3,	—
Eliza	31,	3,	l.
Badger	31,	3,	li.
Amphitrite	31,	2,	—
Chance	31,	3,	—
Crocodile	31,	2,	—
Nautilus	31,	3,	lii.
Orissa	30,	2,	—
Pottinger	31,	3,	—
Montrose	31,	2,	liii.
Euxine	31,	2,	liv.
Pacha	31,	2,	—
Duke of Cornwall	31,	3,	lv.
Courier	April 1,		lvi.

This Storm also appears to have come down the valley of the St. Lawrence, it travelled Eastward till it approached the shores of Ireland, and then curved suddenly to the Northward.[*]

On the 27th and 28th, at Toronto, in Canada, the Barometer fell slowly till about Noon of the latter day, and began to rise in the evening. At Prince Edward's Island, 16 degrees further Eastward, it did not begin to rise till the afternoon of the 29th. At Halifax we find that the storm set in on the morning of the 28th, and having blown a fresh breeze at ESE throughout that day, during which the Barometer was falling at Charlotte Town, shifted on the morning of the 29th to NNW, a moderate gale diminishing as the Barometer continued to rise; a phenomenon precisely similar to that which is very frequently found to occur on this side of the Atlantic. As far South as the Bermudas the Velocity on the 27th, 28th, and 29th had a fresh Southwesterly breeze drawing to NW, and on the 30th to NE. The position of the Prince Albert on the afternoon of the 29th, about 7 degrees to the Eastward of Halifax, coincides with the assumed track of the Storm; having had an increasing gale at SE since Noon of the preceding day, at 5 pm. on the 29th she had a shift of wind from SE round to NW. With the Wellington further to the Eastward and running with the storm, the gale increased during the 29th and 30th at WSW and continued so as long as she ran; until, as Captain Chadwick informed me, not being

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[*] These observations represent the extremes of daily fluctuation, unless otherwise stated, being taken from an early hour of the morning until late at night.

March 31*st.*	6	29.53	S	1	b c v u
April 1*st.*	6	.40	SE	4	o p
	10		E	6	o
	2		E	10	o
	6		E	8	o m r
	Night	.10			Heavy rain
2nd.	6	.00	S	5	c p
	12		S	5	b c p
	6	.00	S	5	b c g
	10	.05			
3rd.	6	.20	S	4	o m p

able to run any longer he hove the ship to on the starboard tack.* After this the wind veered to the NW and N. The same happened also in the case of the Northumberland, to the log of which vessel I am indebted for some very valuable details, not merely indeed in reference to the present storm but throughout her whole voyage, having found her Barometer noted very carefully and constantly, and I have much pleasure in bearing testimony to the great assistance I received from it as well as to the very obliging manner in which Mr. Spencer placed it at my disposal. With the Northumberland too the wind veered from SE to SW. W. WNW. and NNW. the greatest depression of the Barometer being from Noon of the 30th to Noon of the 31st, during which time the Royal Mail St. Packet Europa to the Northward of these vessels and consequently nearer to the centre of the storm appears to have suffered less severely. With her too the storm began with the wind at SE veering to SW. WbyN. WNW. NNW. and concluding with a light breeze at North. To all these vessels the most severe part of the storm was on the 30th, but further to the Eastward, off the Azores, we find that it was on the 31st that its greatest violence was felt, and that the Sea Park† was overtaken by it in the afternoon of that day. The number of vessels homeward bound in the eastern semicircle of this storm, whose logs are to be found in the Appendix, compensate in a great degree for the absence of any lying to the North of its track; especially the Columbine and Teviot in advance of the Sea Park, and the Randolph considerably further to the Eastward, all concur in placing their maximum Barometrical depression at about 8 pm. of the 1st, the two former which were nearer the centre of the gale having the Barometer lower, though apparently encountering less of the strength of the wind. All the vessels hitherto mentioned were to the right of the Storm's centre, but the Lord Petre, Griffon, Ocean, and Rollo appear to have been in the very front of it; with them at Midnight of the 31st, about the time when we began to feel it in England, the storm commenced from SSW increasing as it veered to SSE. By comparing the wind of the Ocean with the Barometers of the other vessels we see that at 3 pm. of the 1st the centre of the Storm must have been about 50 degrees N Lat. and 15 degrees of W Long. as at that time the Ocean shows us that the wind chopped round from E to WNW, and the Barometers of all vessels lying to the SE along a line drawn at right angles to the axis of the Storm began to rise a little sooner or later according to their respective localities.

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* One of the essential principles given by storm writers is, in the Northern hemisphere to lay the ship to on the Starboard tack; and I took some pains, in the course of my researches, whenever personal communication afforded me an opportunity, to ascertain what was considered the most approved practice by those whose experience of the gales of the North Atlantic entitled them to much weight and consideration.

† The reader is referred to Page lx. in Storm C for the log of the Sea Park for the 1st and 2nd of April. The course taken by Captain Humphris lying so much further to the Westward of the other homeward bound India vessels that were in this storm renders her a very interesting link of connexion between them and the vessels off the Banks of Newfoundland.

The storm had hitherto been proceeding in a line a little North of East, but as at this point, the afternoon of the 1st, it appears to have changed the line of axis and to have turned away towards the North, it may be as well to take a view of the direction of the wind as noticed by the different vessels. With the Hendrik Hudson in Long. 23 West, it was blowing from NNE and NNW in heavy squalls with a heavy North-westerly sea; the Pottinger off Cape St. Vincent, a heavy sea, thick rainy weather, and a sudden shift of wind from SW to W; the Montrose, off Vigo, a fresh gale at WSW with thunder and lightning; the Euxine, further to the North and Eastward, had a strong gale at South; the Pacha to the West of Ushant had a fresh gale at SSE; the Duke of Cornwall, to the West of the Land's End a very heavy sea with tremendous squalls and heavy gale; the Camperdown, to the Southwest of Scilly, had a fresh gale from the Southward. I presume the resistance opposed to its further progress at this point by the mountainous ranges of the Western coasts of these Islands was the cause that the Barometer having fallen very rapidly during the 1st remained stationary during the 2nd. In the tropical hurricanes it is always found that whilst they are recurving, their onward movement is very slow; in the present case it would seem as though the lengthened period which elapsed, before the Barometer again rose, was due to some recurvance of this storm off the West of Ireland.

This conclusion is borne out by a comparison of the Lighthouse reports in England and Scotland if we take them in the order according to their locality from South to North, instead of the arrangement from West to East as suggested in Storm *A*.

having in view their *Latitude* rather than *Longitude*. Thus it appears that along the Channel the general veering of the wind was SE. S. SW. and that the greatest depression was about Noon* of the 2nd.; Further Northward across the borders of England towards Midnight and the morning of the 3rd; whereas in the Hebrides and North of Scotland the Barometer fell continuously from the commencement of Storm *B.* till the passage of Storm *C.* i. e. from the morning of the 1st to the Noon of the 4th, the general direction of the wind being from S whilst the Barometer fell, veering to SE as it rose; and off the Orkneys it was a SE gale, though the Storm came from the Westward.

After this it is probable that the Storm travelled NE. but the very rapid rate at which Storm *C* came after it must have mingled these currents by the night of the 3rd: it will therefore be unnecessary to trace this Storm further; I content myself with showing that it was Rotatory and Progressive; that on overtaking Storm *A* it was deflected from its true course (Eastward) to the North; and that as it cleared away on the 2nd from the Wellesley, Ocean, and other vessels to the Westward of Ireland, the direction of the wind was from the North of West.

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* A sudden and most extraordinary fall at the Start Point at 9 pm. I conceive to be simply an error of the copyist.

Probable Track of Centre of Storm, and position on the following days.

March 28th,	Noon.	Lat.	44	Long.	79
29th,			48		62
30th,			52		45
31st,			52		33
April 1st,	3 pm.		50		15
2nd,			53		14
3rd,			Coast of Norway.		

I shall now proceed to consider the Sections in the Appendix which have reference to Storm *C*.

STORM C.

APRIL 3rd.—5th.

For Log of	From	To	See Page
Velocity	March 31,	April 2,	lvii.
Margaret Evans	31,	2,	—
Prince Albert	31,	3,	—
Queen of the West	April 2,		lviii.
Europa	March 31,	2,	—
Northumberland	April 1,	3,	—
Hermann	March 31,	3,	lix.
Wellington,	31,	3,	—
Chanticleer	April 1,	3,	—
William Money	1,	4,	*—
Frances Walker	1,	5,	*—
Hashemy	1,	5,	lx.
Sea Park	1,	4,	—
Onward	2,	4,	lxii.
Madagascar	2,		—
Brilliant	3,	5,	—
Rollo	3,	5,	lxiii.
Dolphin	2,	5,	*—
B B Greene	3,	4,	—
Ocean	2,	4,	—
Hendrik Hudson	2,	5,	—
Crocodile	2,	5,	lxiv.
Wellesley	2,	5,	—
Harmony	2,	4,	lxv.
Nautilus	3,	5,	—
Griffon	2,	5,	—
Duke of Cornwall	2,	5,	lxvi.
Washington	2,	5,	—
Randolph	2,	5,	lxvii.
Alert	2,	4,	lxviii.
Columbine	3,	4,	—
Teviot	3,	4,	lxix.
Isabella Blyth	2,	4,	—
Orissa	2,	4,	—
Euxine	3,	4,	lxx.
Montrose	2,	4,	—
Pottinger	1,	5,	—
Severn	2,	5,	lxxi.
Lord Petre	3,	5,	lxxii.
Courier	3,	5,	—

It has been stated that the preceding Storms *A* and *B* from their having travelled down the valley of the St. Lawrence lay to the Northward of the usual course of vessels trading between America and Europe; and that therefore I had not met with data to enable me to ascertain the extent of their left-hand hemisphere before they approached the shores of this country.

But the Storm *C* came from the Bermudas, and passed across Ireland and the Isle of Man.

There are therefore the most indisputable proofs *throughout its entire course* that it was a *Rotatory* and *Progressive* hurricane to which I shall proceed to refer the reader.

The Velocity, off Bermuda, had on the 31st March—1st April a strong WSWly gale veering to South: and on the morning of the 2nd at North by East. During this time along the Coast of the Mainland it was blowing from the Eastward and Northward, (the greatest depression of the Barometer being on the 31st, and morning of the 1st.) but as it was felt with less violence, and the Europa's Barometer was affected much less than that of the Sea Park, I conclude this Storm travelled Eastward on leaving Bermuda, to the Westward of which Island I have not succeeded in tracing it.

All the vessels off the Banks of Newfoundland, Prince Albert. Queen of the West, Europa, Northumberland, Hermann & Wellington, are consistent with the hypothesis that they were in the left-hand (Northern) hemisphere of a Rotatory Storm travelling

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* These observations represent the extremes of daily fluctuation, unless otherwise stated, being taken from an early hour of the morning until late at night.

	April 3rd	6	29.20	S	4	o m p
		12	.20	S	6	o m r
		6		S	9	o r p
		Night	.10	Very wet,	9	& rough
Storm C.	*4th.*	6	28.88	SSW	8	o m r q
		12	.95*	SSW	8	o m r
		3		W	8	c m p u q
		Night				Very clear
	5th.	6		W	5	b c m
		12	29.67*	NW	4	b c v
		4		W	3	b c v
		10	.75			Clear

[*Absence from home during 24 hours from Noon to Noon, prevented my noting the intermediate stages of rise which in the interval amounted to .72 of an inch.]

from West to East. The wind with them veered from E to NE. NNE. N. and NW; and the greatest depression of the Barometer of the Northumberland being about Noon of the 2nd, at which time the wind veered from NNE to NW, I suppose the Storm to have been passing to the Southward of her at that time, at which the Sea Park began to feel its violence. Its centre I therefore assign for Noon of the 2nd to Lat. 40 N. Long. 40 W.

The Wellington at this time had the wind veering as follows; SE. EbyS. E. ENE. NE. N. *She appears to have been kept on the Starboard tack* with her head to the Northward, till the gale moderated and the wind headed her at ENE and NE. and then finding that he was lying off his course as I presume, Captain Chadwick ran round the hinder part of this Storm, being in the rear quadrant of it.

But the most instructive portion of all the extracts relative to these Storms is the Log of the Sea Park for the 2nd and 3rd April. Most fortunately she escaped any severe injuries, having troops on board, and being light. She was running in advance of the Storm, on a course nearly parallel with its track, and when it began to curve to the Eastward was in the "*quadrant of greatest danger*" but being brought to the wind *on the starboard tack* she waited until the Storm had passed her.

The details of the Randolph's Log are very similar except in point of time, as she was overtaken by the Storm at the time the Sea Park was nearest its centre, which was from 18 to 20 hours traversing the space between them. Her course too led her towards its track, and she had a heavy gale with a terrific sea, and a perfect hurricane; nevertheless her Barometer fell only to the extent of ,42-100ths of an inch in 28 hours, whereas the Sea Park shows a fall of 1,30-100ths in 30 hours.

To all the vessels off the entrance of the Channel, South of Ireland and West of France, the wind veered from SW. to WSW. W. WNW. and NW. The chart is crowded with vessels homeward bound, profiting by the succession of Westerly gales for upwards of a week to make the best of their way towards the Channel, and the departure of so many large and well appointed Mail Steamers at the commencement of the month have supplied a great store of materials for illustrating the effect of a Storm on the Barometer.

I would especially refer my readers to the Montrose, Pottinger, and Severn.

In order to continue the proof of its Rotatory nature, we may here compare the directions in which the wind was blowing at Noon of the 3rd, the time at which it reached England, and the Barometer began to fall, its centre being in Lat. 48.00 N. Long. 27.00 W.

In Long. 51.41 W. on the Banks of Newfoundland, the Northumberland had a fine NNW breeze: In Lat. 28.29 Long. 36.36 the Hashemy had a strong, but decreasing, breeze from NW.: The Sea Park in Lat. 40.00 Long. 23 (a little in advance of the Storm) was scudding before a gale at WSW: The Wellesley, Randolph, &c. &c. had a heavy gale at SW in Long. 10.00: The Duke of Cornwall lying to on the port tack in 7.00 W. Long. and 49.53 N. Lat. had the gale at SSW; and on the Western Coast of Scotland it would appear that the wind was from the SE, a gale, although from the manner in which the wind is noted there (being merely "its general direction for 24 hours up to 9 pm.") this is but matter of conjecture.

Having traced this Storm to the British Islands up to Noon* of the 3rd, we will proceed to observe the effect produced by it whilst crossing over them, in the parallel of the Calf of Man, about 54 North.

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* On Wednesday, April 3rd, about Noon the Barometer fell again, and the weather, which had been pleasant during the earlier part of the day began to lower, it rained throughout the afternoon, and the night was extremely squally rough and wet, and continued so until about Noon of Thursday, at which time the clouds had begun to break, and the Bar. to rise. Being desirous of keeping an engagement at a place about 25 miles distant, to the North and East of Dorchester, I set out on my drive shortly after mid-day, and I detail the particulars of the weather as affording on land an illustration of what often occurs at sea, viz. running into bad weather and then getting out of it by lying to, and also as giving an instance from which to judge of the rate at which the clouds travel in the hinder quadrants of a Storm.

When I left home shortly after Noon the rain had ceased, but having driven 15 miles by 2 o'clock I had overtaken the Storm, the rain recommenced, the sky was completely overcast, and every appearance was presented of a wet night. To my surprise however whilst I stopped for an hour to refresh my horse, the sun reappeared, and the weather cleared up, and at 3 o'clock I resumed my journey, anticipating a fine afternoon, although the wind continued extremely boisterous from the West: my course which had hitherto been NE, now turned off Northward, and by 5 o'clock, the clouds again closed in on me, the rain again began to fall, and I reached the welcome shelter of my friend's roof in time to escape, as I thought, a thorough soaking. My reception was cordial, his fireside most comfortable, the conversation enlivening and agreeable; we forgot the Storm, until we were roused by the note of preparation which in all well-regulated families precedes the dinner hour. We gave one look at the tempest without, and lo! a fine sunset, and a clear blue sky, but to the Northward and Eastward, a heavy mass of clouds well-betokening the Storm that was travelling across the borders of England and Scotland.

Along the borders of England and Scotland, it set in on the Evening of the 3rd, with a fresh gale at S, the Barometer falling until Noon of the 4th; at Flamborough Head this fall continued until the Evening, as also at the North Foreland, the direction of the wind in Scotland being from the SE, but in England from the SW; and on the 5th, with the Barometer rising, the wind was generally NW over the whole Island.

The centre at Noon of the 4th I therefore suppose to have been about Lat. 54. N. Long. 2 W.

It is observable that the greatest violence of the wind was in the Eastern and Southern quadrants over these Islands, as it had been at sea; as though its left-hand hemisphere had been lifted up, the plane of inclination being from SE to NW.

I proceed now to point out the effect produced by its passage over Central Europe.

At Brussels at 8 pm. of the 3rd the Barometer began to fall rapidly until Noon of the 4th, with a high temperature and the sky completely overcast, with a strong SW breeze. At Berlin and Stettin, about 14 degrees East of London, the greatest depression was at 10 pm. of the 4th, the wind being from SSE and SSW. In Bavaria the greatest depression was in the Evening of the 4th, the wind being from the SW, veering on the next day to W and NW; Brussells and Bavaria were therefore in the right hand quadrants of this Storm.

At Heligoland the greatest depression observed was at 3 am. of the 5th, the wind veering from S. to SSW. SW. WSW. W. W by N. WNW.

At Copenhagen the greatest depression was in the night of the 4th—5th, wind veering from ESE. to SSW. SW. & WSW.

At Konigsberg and Arys on the frontiers of Eastern Prussia the greatest depression was not until the Morning of the 5th, the wind veering by SE to SW.

At Christiania also, the furthest of the Stations to the Northward, the greatest depression was on the Morning of the 5th, the wind however throughout the passage of this Storm being from the Northward; and whereas in Southern Germany it

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Twice therefore in the space of three hours, and within the distance of 25 miles had I overtaken the Storm, and twice had the Storm gone ahead of me whilst discontinuing my journey.

I imagine therefore that the hinder portion of the Storm advanced at the rate of 5 miles per hour, whilst the centre advanced at not less than 40, and this is irrespective of the circular motion of the wind.

brought Spring and warm rain instead of frost, here it covered the sky with clouds and the ground with snow.*

Consequently it passed between Christiania and Konigsberg, and probably up the Baltic over the Northern Provinces of Russia.

We find the same facts to hold good on the Continent, which have been noticed of its passage over the British Islands, in reference to the *force* of the wind, which at Christiania in the left hand hemisphere, did not exceed 2,5 = *a strong wind,* but in Bavaria exceeded even the strength of Storm *A,* being marked 4, = a heavy gale or hurricane; as also at Cleve on the Rhine, and Broecken in Westphalia.

It will be seen also throughout the extent over which this Storm passed, that the rise of the Barometer was very rapid, from which we may infer the great rate at which it was moving.

With a view to avoid the danger caused to vessels from encountering Storms it is material to consider, when the Barometer is falling, not merely the present position of any Storm, but the direction from which it is coming, which is of course a very important means of estimating the probable direction in which it is going.

Now that the temperature of the air during a Storm is much influenced by the Latitude from which the Storm comes, is exemplified by the one now under consideration of which Dr. Durr most justly remarks "that its approach brought with it Spring."

Thus if we examine the corresponding Columns in the Reports from Prussia and Bavaria, we shall see that whereas on the 1st-2nd-3rd April frost prevailed generally through Central Germany during the passage of Storm *A,* which came from the St. Lawrence and Canada, there was an immediate and most marked change in the temperature consequent upon the approach of Storm *C* which came from the Bermudas and the Tropics.

The extent of this Storm must have been very considerable; assuming that its centre at Noon of the 3rd was about 48 N. Lat. 27 W. Long. it extended nearly from the meridian of Greenwich to the Northumberland in 51 West; and even as far as 61 West it had not quitted the Prince Albert. At Reikiavik in Iceland 64 N. Lat. the Barometer having fallen rapidly during the 1st and 2nd began to rise about 10 am. of the 3rd, which coincides with the assumed central position for that day, and as the Hashemy, William Money, Frances Walker, and Brilliant had strong winds as far South as Lat. 30,00, we may assign to this Storm a diameter of 34 degrees of Latitude, equal to nearly 2000 miles.

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* At Page xvii. Appendix Part II. Column III. the distinctive signs +, —, are omitted, the reader is referred to the Errata, and is requested to insert the corrections with his pen.

Probable Track of Centre of Storm, and position on the following days.

April 1st. Noon.		Lat. 35	Long. 54
2nd.		40	40
3rd.		48	27
4th.		54	2
5th.		Over the Baltic.	

It is observable that this track, which had been towards the North during the 2nd.—3rd. curved away to the Eastward during the 3rd.—4th. on overtaking Storm *B.* which lay away in that direction.

I shall now proceed to consider the Sections in the Appendix which have reference to Storms *D.**—*D.*

STORMS D*—D.

APRIL 5th.—6th.

For Log of	From April	To	See Page
William Money	4,	6,	*lxxiii.
Frances Walker	3,	6,	*—
Hashemy	5,	5,	—
Brilliant	5,	7,	—
Orissa	4,	7,	—
Montrose	5,	7,	lxxiv.
Euxine	4,	7,	—
Sea Park	4,	7,	lxxv.
Isabella Blyth	5,	7,	lxxvi.
Severn	5,	7,	—
Wellington	3,	7,	—
Rollo	5,	7,	—
Dolphin	5,	7,	*—
Ocean	4,	7,	lxxvii.
Crocodile	5,	6,	—
Nautilus	6,		lxxviii.
America	6,	7,	—
Southampton	6,	7,	—
Duke of Cornwall	5,	6,	—
Courier	6,		lxxix.

It has been shewn at Page 30, that at Noon of the 4th, Storm *C.* was passing along the borders of Scotland and England, the centre being in Lat. 54.00 N, and Long. 2.00 W; its rear quadrants having extended on the preceding day from 27.00 to 51.00 W Long. and from 48.00 to 30.00 N Lat. as stated at Pages 31—32.

The displacement and subsequent subsidence of so extensive

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* These observations represent the extremes of daily fluctuation, unless otherwise stated, being taken from an early hour of the morning until late at night.

	Day.	Time.	Barometer.	Wind.	Force.	Weather.
STORM *D.*	*April 5th.*	10	29.75			Clear.
	6th,	6	.63	S	3	o p d m
		10		S	3	b c m
		2		S	3	b c
		6	.64	S	3	o

A [illegible] of [illegible] atmosphere would cause a great pressure from the exterior to fill up this void thus created, the atmosphere pressing into the void would assume a rotatory motion, and fresh Storms of a Cyclonic nature be produced.

Accordingly we find that at least two Storms *D.** and *D.* were produced, which I shall proceed to trace.

A reference to the Sea Park shows that on the 4th and 5th she was in the first of these, as it travelled from West to East.

In Lat. 47.55 Long. 19.28 the Ocean on the morning of the 5th, had fresh gales, with squalls and hard rain at SSW.

In Lat. 49.30 Long. 24.00 the Dolphin had pleasant SSW breezes until 10 am. when the wind veered round to NW and blew a strong breeze till Midnight, and then veered to W. The next morning (2 am. 6th.) the wind veered back to S; this I suppose to have been the next Storm approaching.

At about 4 am. of the 5th, the Euxine off Cape St. Vincent experienced a fall of the Barometer from 30.08 to 29.99, rising again to 30.20 as she moved towards Gibraltar.

The effects of this Storm however did not reach this country and it is unnecessary to follow it further, nor should I have introduced it all, but that it might have been thought that I wished to avoid it and to blink the question previously raised as to the Cyclonic nature of all atmospheric currents. The objection in that case certainly might have been brought against me, that the weather experienced by the Sea Park, &c. on the morning of the 5th could not be explained by either of the Storms included in Pages 7—8, and that therefore I had failed to substantiate the proposition with which I set out, that the Law of Storms is of universal application.

I now propose to trace Storm *D.* which passed over England during the 5th and 6th.

The afternoon of the 5th was fine, with a moderate NW breeze diminishing as it veered to W, and the evening was clear with the Barometer still rising; but the morning of the 6th was ushered in with haze and drizzling rain, and the sky overcast, with passing showers, and the Barometer tending downwards. This Storm also I suppose to have arisen from the cause just above mentioned, to which Storm *D.** is referrible, but instead of travelling Eastward over France, it moved off Northwards.

Although the wind throughout the 6th April was generally from the Southward in the South of England, yet in Lat. 48.30 Long. 20.13 W, the Ocean in the forenoon had fresh SW gales increasing to a hurricane from W by N at Noon, and in the evening from NW by W. The centre of the Storm must therefore have been to the Westward of her before Noon, and to the Northward of her in the Afternoon.

This supposition is confirmed by the Log of the Dolphin,* which vessel lay to the Northward and Westward of the Ocean in Lat.49.18 Long. 25.16 and would appear to have been in the Storm's-eye about Noon of the 6th. During the evening of the 5th she had a hard gale from W which moderated after Midnight, though the Barometer continued to fall, and in the Morning the wind veered to S and then to ESE, and at Noon to N, which would indicate that the Storm at first lay to Westward of her, and in approaching passed to the Southward of her, and then passed over her towards the North. However this may be, it is certain that during the Forenoon of the 6th the Dolphin had a gale from S and ESE, whilst the Ocean had the wind from SW.

The Rollo also, which lay still further to the Westward than the Dolphin, had a variable gale from W to N on the 5th—6th; this being an Abstract Log only, the materials are but scanty, but they coincide well with the position above assumed.

I therefore place the centre of Storm *D.* at Noon of the 6th, in Lat. 49.00 Long. 25.00.

I much regret not having been able to obtain the remainder of the Log of the Wellington, which would have thrown much light on the course of this Storm.

The inclination of the Storm at this time was from SW to NE, having the front part lifted up, and the rear quadrants pressing on the N Atlantic.

From the want of Logs I have not been able to trace this Storm backwards, either to the Westward or Southward; I believe it however to have originated during the 5th in the rear quadrants of Storm *C.* from the same causes as Storm *D.** already explained.

Possibly the continuation of Northerly winds experienced to the Southward of the Azores by the William Money, Frances Walker, and Hashemy, during the 4th—5th may have been owing to this Storm; at this time the Brilliant at Madeira, and the Orissa to the Eastward of that Island had Southerly winds.

The Light-house Reports show that in the South of England the maximum depression was from 3 to 9 am. of the 6th, but at Flamborough Head and Longstone not until the afternoon, and in the North of Scotland not until the 7th; the *commencement* also of the fall coincides with the supposition that this Storm came from the Southward, as the Barometer began to give way at 9 pm. of the 5th in the South of England along the Channel Light-houses, not until the morning of the 6th on the borders of England and Scotland, and not until the evening of that day in the extreme North of these Islands.

The veering of the wind generally coincided with the fall and rise of the Barometer, having shifted from NW to S with the approach of the Storm, and, where noted, having moved round *with the sun* from S to SW as the Storm travelled Northward.

It is observable also that its approach caused a rise of 6 or 8 degrees in the temperature of the Northern portions of these Islands, which would be produced by the warmer Latitude from which the wind came before it reached them.

I suppose its centre to have been at the parallel of the Orkneys at Noon of the 7th, but to the Westward of them, as the wind continued from the Southward throughout its passage, even at Island Glass in the Hebrides, at which the depression of the Barometer was greater than at any other Light-house, i. e. from 29,50 to 28,94. It will be seen that here also, whilst the Barometer fell during the 6th with the approach of the Storm the wind was *light* and *variable,* but that as it rose with the Storm passing away with the influence of the pressure of the hinder quadrants, there was a *heavy gale.*

I therefore assign its position for this day to Lat. 59.00 Long. 10.00 W.

At Reikiavitz in Iceland at this time the Barometer fell from Noon of the 7th till 6 am. of the 8th, though but slightly, which is consistent with the track and rate of progress above laid down; it is however right to add that this may have been produced by the passage of Storm *E*; consequently I do not attach any weight to this circumstance.

It will be seen that as far Eastward as Frankfort, this Storm produced on the 7th—8th, a slight depression of the Barometer which had been rising after the passage of Storm *C.* and also at Copenhagen, at which last place the commencement and maximum of depression will be found to have occurred some hours later tham at the former.

Probable Track of Centre of Storm, and position on the following days.

April 5th. Noon.	NW of the Azores.	
6th.	Lat. 49	Long. 25
7th.	59	10

I shall now proceed to consider the Sections in the Appendix which have reference to Storm *E.*

STORM *E.*

APRIL 6th—10th.

For Log of	From	To	See Page
Medway	March 31,	April 1,	lxxix.
Velocity	April 2,	5,	—
Margaret Evans	2,	6,	lxxx.
Prince Albert	3,	5,	—
Niagara	3,	5,	—
Europa	2,	5,	—
Hermann	3,	5,	lxxxi.
Northumberland	4,	6,	—
Chanticleer	3,	7,	lxxxii.
William Money	5,	8,	*—
Frances Walker	5,	7,	—
Hashemy	6,	8,	—
Brilliant	7,	10,	lxxxiii.
Orissa	7,	9,	—
Montrose	7,	9,	—
Rollo	7,	9,	lxxxiv.
Dolphin	6,	8,	*—
Wellington	7,	9,	—
Ocean	6,	9,	—
Sea Park	6,	10,	—
Severn	6,	9,	lxxxv.
Isabella Blyth	7,	9,	lxxxvi.
America	8,	9,	—
Crocodile	6,	8,	—
Sultana	9,	10,	lxxxvii.
Southampton	7,	9,	—
Jupiter	8,	9,	—
Courier	8,	9,	lxxxviii.

I have shewn at Page 35, how at Noon of the 6th, Storm *D.* was rotating to the Westward of these Islands, its centre being in Lat. 49.00 Long. 25.00.

At this time Storm *E.* was approaching from the Westward, and I propose to trace its course.

I believe this to have come from the Gulf of Mexico, and to be the same Storm which was felt as a heavy gale at Mobile on the 1st.

On the 3rd it passed over the Velocity nearly midway between the Bermudas and Philadelphia, which vessel in Lat. 33.33 Long. 68.34 had a moderate breeze at ESE in the morning of that day, and strong gales at WSW in the afternoon, and must therefore have been in the Eastern hemisphere of a Storm passing from South to North, that is to say, between the Velocity and the mainland. It appears however not to have been of very great extent, and therefore to have travelled slowly from the length of time that elapsed during which the Barometer was falling at Prince Edward's Island, viz. from the morning of the 2nd to mid-day of the 4th, about 60 hours, the wind during its approach being from S and SE as the Barometer fell, and from N and NNE as it rose again. This would indicate that the passing Storm was to the Southward, although in this position the direction of the wind must be frequently modified by the surrounding land; this however is confirmed by the other reports in § I; at Toronto, Canada West, the greatest depression was at 5 am. of the 4th, the wind being from ENE with a high temperature as the Storm approached, the body of it being to the Southward, and with a lower as it passed away and then being to the Northward; indeed the highest observations of the Thermometer recorded there throughout the entire peri-

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* These observations represent the extremes of daily fluctuation, unless otherwise stated, being taken from an early hour of the morning until late at night.

STORM *E.*

Day	Time.	Barometer.	Wind.	Force.	Weather.
April 6*th.*	6	29.64	S	3	o
Sun. 7*th.*	6	.56	..	2	o m
	1		..	2	b g m
	6	.45	..	2	c g v
8*th.*	5		..	1	o
	10.30	.25	..	2	o u v p
	Noon.	.17	..	4	o p u
	4		SE	4	o u
	Night	.17		Very wet and rough.	
9*th.*	6	.17	S	7	o m p d
	11		SW	7	o m p
	1		S	7	o p m
	Night	.28	W	3	o d
10*th.*	6	.30	SE	4	b e v
	Noon.		..	4	b c v
	3	.30	E	6	b c

od embraced within this inquiry were on the 2nd and 3rd of this month.

In Rhode Island the same was observed in every respect, with the difference that the Barometer continued to fall till a late hour of the day (though the precise period is not noted) which is entirely consistent with the assigned track, as Toronto would be passed by the Storm before Rhode Island.

To the Eastward of Newfoundland about the same time that this Storm set in at Halifax and Prince Edward's Island, the Margaret Evans was overtaken by its front quadrants which at this time must have been at a considerable inclination upwards, *i. e.* from SW to NE, as it was a strong WSW gale to the Velocity at pm. of the 3rd, whilst the Margaret Evans, whose Barometer at this time was falling rapidly, had "Calms, and Light variable Westerly winds." The Northumberland from London to New York was still within the influence of the preceding Storm, (?) as her Barometer continued to rise until Noon of the 3rd, and she still had a strong NNW breeze until near Midnight, and was then becalmed in 50.30 W. At this time her Barometer began to fall, and at 4 am. of the 4th a light breeze sprung up from the South with rain; through the accuracy of Mr. Spencer we have consequently the exact Eastern boundary of this Storm and time of its commencement well defined; in her case also the wind was light and calm, with thick foggy weather inthe front quadrants of the Storm, (with a low Barometer having fallen ,80 of an inch in 40 hours) succeeded by fine clear weather, and by a fine NE breeze, setting in when the Barometer began to rise: there can be therefore little hesitation in inferring from these data, that at Noon of the 5th the Northumberland must have been in the Storm's-eye, but in the North-&-Western quadrants, and to the left of its axis. This vessel from the course above stated entered the Storm in its front, and on its right-hand hemisphere; she drew across its Southern limb into the Storm's-eye, and sailed out at its Western side.

The Prince Albert which was above 7 degrees a-head of the Northumberland, but whose Barometer I was unable to obtain, had similar weather, light winds at W on the morning of the 3rd veering to NW then N on the morning of the 4th, increasing to strong winds at NE with rain and squalls, and at E in the evening: she was at this time in the Western quadrants of the Storm, and as it travelled in a contrary direction to her course, viz. to the Eastward, as she sailed to the Westward, the angle of incidence would cause the wind to blow more in a line parallel with the axis of the Storm.

The correct explanation of the above Meteorological phenomena appears to me to be that whilst the Storm was coming from the South on the 2nd and 3rd, lying to the Westward of the Bermudas, its front being opposed by the high lands lying along the shores of the Northern portions of the United States, Nova Scotia, &c. received a direction upwards, and at this time the plane of inclination ceasing to be horizontal acquired a considerable force of pressure in the rear of its area, as shewn by the Velocity; from this opposition its onward progress Northwards was also retarded and it acquired another line of motion, viz. Eastward, and we shall now find that its course for some days was in that direction, and that it began also at this time to expand.[*]

I therefore place the centre of the Storm at Noon of the 5th, in Lat. 41.00 Long. 54.00.

From this point we trace the progress of Storm *E.* by the Logs of the William Money, Frances Walker, and Hashemy, which having fallen astern of Storms *C.* and *D.* had now the wind from the Westward. The Frances Walker alone of these furnishes any Barometrical data, but a fall of ,20 of an inch, with "a strong increasing gale" veering from WSW to W, WNW and NW coincides with the supposition that the centre of the Storm was to the Northward of her passing from West to East; whether her Barometer rose again does not appear as it is only recorded at Noon. The Hashemy which lay to South-&-Eastward of her, and therefore further from the Storm, experienced less of its violence.

As these Logs concur in placing the veering of the wind from WSW to W and WNW at Noon of the 6th, I suppose its centre at that time to have been to the Northward of the Frances Walker, *i. e.* in Longitude 40.00 W. Its Latitude may be set down (from a comparison with the dates of the 5th and 8th) at 46.00.

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[*] The *expansion* of Rotatory Hurricanes is one of their most remarkable and important properties, one the least investigated, and yet most worthy of philosophical consideration. The ratio of expansive force, and progressive motion of ROTATORY ATMOSPHERE may perhaps be a Law of Nature as determined, as the Impetus of a Falling Solid, and therefore to be ascertained: but such a discussion would not come within the scope of a Note, nor be relevant to this part of my subject. I therefore must postpone it to some more convenient opportunity.

It appears hitherto to have proceeded from the Banks of Newfoundland towards Europe, Eastward, nearly along the parallel of Lat 44.—50 N, its tendency to travel towards the Pole being counteracted by Storm *D*. the hinder quadrants of which were pouring down a strong gale at NW in Long. 20.00 W, and on its reaching England during the 8th, the Barometer remained stationary at a low point, having fallen ,47 since the evening of the 6th.

As the Storm had now reached the shores of England, it may be as well to examine the effects it produced, and the direction in which it was felt over the Eastern or European portion of the N Atlantic.

In England we find that the wind was generally from the South, and on the coasts of Spain and Africa from the West, and although in this country, as the Eastern portion only of the Storm skirted it, its rotatory nature was not so self-evident, there can be no doubt that during this part also of its track as well as at the commencement the true Cyclonic nature and properties were maintained.

We now come to those vessels that lay to the North and Eastward of the Azores, and we find that with them also the front of the Storm was less severe than the hinder quadrants.

Supposing the centre of the Storm at Noon of the 7th to have been in Lat. 48.00 Long. 24.00 as deduced from the preceding Logs, we see that this position tallies with the Montrose, which at Gibraltar had but little of its force, but as she ran Northward towards Lisbon into the open sea, clear of the Straits, had the wind at SW and WbyS, and then as the Barometer rose veering to NW and NNW at Noon of the 9th. At this time Storm *F*. was coming on, which as will be shewn travelled at a much more rapid rate (as passing from a warmer to a colder latitude,) than the Storm now under consideration.

The Brilliant, at Madeira, during the 7th—9th had Westerly winds, at times strong, and the Orissa had the Storm from the same quarter.

The Severn, from Southampton to the Azores, was nearest to the Storm at Midnight of the 7th, the wind having shifted from SW to NW, and at 8 am. of the 8th the Barometer began to rise; and though the wind was not so extremely violent to her, its effects are perceived from the distance she was driven out of her reckoning, viz. .26' of Lat. and .13' of Long.

The Sea Park homeward-bound to London ran before the

Storm, and as she continued a-head of it had the wind from the South, until it abated and the Barometer rose; with her it fell ,78 in 24 hours from the 7th to the 8th; and by 4 am. of the 9th rose again in 16 hours ,35 to 29.20, and yet the weather grew worse "increasing to a full gale with very hard squalls and a high following sea." It is observable that about Noon of the 8th, at which time her Barometer had fallen to 28,80 the *wind which had previously been* SSE *changed to* WbyN, she could not have been far from the centre of the Storm, which I therefore assign at this time to Lat. 49.00 Long. 9.00, and the position agrees with the following vessels.

The America, a little to the Westward of Cape Clear bound to Halifax, had the breeze commencing at South, then increasing to a gale at ENE, NE, N; but as she ran on to the Westward she got out of its way.

The London and New York Liner Southampton,* to the Westward of the Lizard had a strong breeze at S veering to SSE; at 3 pm. it fell calm; at 4 pm. a breeze sprung up from the North, weather looking bad and the Barometer low; and at 7 pm. increased to a gale; but with her as with the Ocean, the wind *backed* from N to NNW. NW. WNW. W. SW.

At this time the Ocean had light winds NNW. veering in the afternoon to WNW, which much puzzled me when first I received her Log; but it is evident that whilst the Storm lay to Eastward of her she would have the wind at North, but that as as it moved in a Northerly direction, and lay to the North-east of her she would have the wind more from the Westward; this observation applies equally to the Severn, and will be seen immediately to be well founded on passing a Storm Card along the track of the Storm.

The Jupiter, which left Southampton for Gibraltar at 2 pm. of the 8th, as soon as she got clear of the land had the wind at SSE. S. whilst the Barometer fell, but veering to SW and W as it rose.

These six vessels form the centre and opposite points of the

[* In addition to the assistance which Capt. Tinker most courteously afforded me by entrusting me with his own private Abstract of the Margaret Evans that I might copy at my leisure his observations, not merely for this present, but also for several preceding voyages, he obtained for me from one of the Mates of the above noble vessel now under his command, the use of a private memorandum book, which has supplied me most useful and important materials for the later portions of this Memoir.]

Storm, and a comparison of their Logs for this day would convince, I think, even the most sceptical. I venture to present here an abstract of them;

Ocean,	WNW.			(*Western side*)
America,	ENE to	NE.		(*Northern*)
Jupiter,	SSE.	S.	SW.	(*Eastern*)
Southampton,	SSE.	N.		(*Storm's-eye*)
Sea Park,	SSE.	WbyN.		
Severn,	SW.	NW.	N.	(*Southern*)

And yet any one who examines only the reports from England might be very well excused for doubting the rotatory nature of a Storm, during which for three days the wind continued almost entirely from the Southward.

I conclude by this time Storm *D.* had passed away so far to the Northward that Storm *E.* was enabled to proceed, and that its front quadrants being lifted upwards by the high lands of Ireland, its hinder portion was brought down on the sea; it is certain that in Scotland it was much less severely felt than by the America and Southampton.

At this point it behoves me to make an admission, which however does not in the least invalidate the above facts, nor affect the inferences drawn from them, but it is well to state, that though I have shown, and as I think incontestibly, that Storm *E.* was *rotatory and progressive,* and that at Noon of the 8th its centre was in 49.00 N. 9.00 W. and that on the 5th April a Rotatory and Progressive Storm passed over the Northumberland in Lat. 41.30 W. Long. 54.00 W. nevertheless the continuity and connexion of these two whirlwinds is to a certain degree matter of assumption: I might have contented myself with taking up Storm *E.* at our own shores, but it appeared to me to be for the interests of science to carry back my inquiries, and also more just and respectful towards those who have so liberally and unreservedly placed at my disposal their invaluable and confidential sources of information.

It now remains to trace the further progress of this Storm from the 8th, and we shall see at Flamborough Head* the wind veered from SSE to S and SSW during the greatest depression, as the Storm was at that time travelling Northward, viz. in the morning of the 9th: In Scotland the fall continued to a later hour, the wind blowing generally from the South, SE, or SW, but with respect to the Northern parts of these islands, inasmuch as they lay between the influence of Storms *E.* and *F.* the former having passed to the North-and-Westward of them, whilst the latter was to the South of them, it is difficult to discriminate the time at which the effect of one terminated and the other commenced, as the Barometer which began to fall on the afternoon of the 8th, on recovering from its depression, rose until the 13th on the approach of Storm *G.* It is observable however that at Island Glass in the Hebrides, the lowest observation is at 9 am. on the 9th, followed by a wind at NE, and at Inchkeith, on the Eastern Coast of Scotland, not until 9 pm.; this would indicate an Easterly or North-Easterly direction, as though the centre of the Storm had travelled up the Caledonian Canal. The *extent* of this Storm, as well as the preceding one, was much less than of Storm *C.* not having a diameter of more than about 20 degrees of Longitude.

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* See Supplementary sheet for the continuation of the Report from Flamborough Head.

Perhaps after this it moved Eastward over the German Ocean and towards the Baltic, as the Barometer both at Frankfort and at Copenhagen fell during the 9th, 10th, and 11th, which is consistent with the foregoing hypothesis, at the former place the wind being from the SW, and at the latter from the SE.

Probable Track of Centre of Storm, and position on the following days.

April 3rd, Noon.	Lat. 33	Long. 72
4th,	38	64
5th,	41	54
6th,	46	40
7th,	48	24
8th,	49	9
9th,	Over the North of Scotland.	
10th,	57	5 E
11th,	Over the Baltic.	

I shall now proceed to consider the Sections in the Appendix which have reference to Storm *F.*

STORM *F.*

APRIL 10th—13th.

For Log of	From	To	See Page
Medway	April 1,	April 3,	cv.
Velocity	5,	8,	—
Clyde	1,	7,	—
Avon	5,	8,	cvi.
Prince Albert	5,	8,	—
Hermann	5,	7,	cvii.
Northumberland	5,	8,	—
Chanticleer	7,	9,	cviii.
Margaret Evans	6,	10,	—
Niagara	5,	10,	—
Frances Walker	6,	11,	cix.
William Money	7,	11,	cx.
Hashemy	8,	12,	cxi.
Rollo	9,	11,	—
Dolphin	8,	11,	—
Ocean	8,	11,	cxii.
Wellington	7,	11,	cxiii.
America	9,	11,	—
Severn	8,	11,	—
Brilliant	10,	12,	cxiv.
Montrose	8,	11,	—
[Do.	11,	12,	cxxiv.
Isabella Blyth	9,	12,	cxv.
Jupiter	9,	11,	—
[Do.	11,	12,	cxxv.
Southampton	9,	12,	cxv.
Sultana	10,	12,	cxvi.
Courier	10,		—

If this Storm was the same which the Medway experienced on the 1st and 3rd of April, it came from the Western side of the Gulf of Mexico, and about 6 pm. to Midnight of the 2nd, the centre must have been to the Westward of New Orleans, say about Lat. 30 N Long. 90 W

In connection with this Storm I have given the Log of the Clyde, which on her run from St. Thomas' to Bermuda, appears to have been in the North-east quadrant of a Storm moving from the South-west of her to the North-west *i. e.* in a Northerly direction over the Gulf of Mexico. But as this is merely matter of speculation, I only put these details before my readers in case any one should think proper to trace its course in that direction backwards.

From whatever quarter it came, it passed along the Coast of the United States between the 4th and the 7th of April, being to the Eastward of Rhode Island, and to the Westward of the Bermudas on the morning of the 6th: at the former the wind was from the North; at the latter by the Log of the Avon it was from the Southward: at Rhode Island it veered from NE to NW. *backing:* at the Bermudas from S. and SSE. to SW. WSW. NW. NNW. and Northerly.

The Velocity which lay midway between these points had the wind from SW. in the forenoon of the 6th, and from N. in the afternoon.

I therefore assign its centre for this day at Noon, to Lat. 35 N. Long. 73 W.

This position is confirmed by the Log of the Northumberland: with her the Storm set in from E. and ESE in the forenoon of the 6th, as she was to the South of it, veering to SSW

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* These observations represent the extremes of daily fluctuation, unless otherwise stated, being taken from an early hour of the morning until late at night.

Storm F.

Day.	Time.	Barometer.	Wind.	Force.	Weather.
April 10*th.*	3	29.30	E	6	b c
	Night	.02			Very rough and windy.
11*th.*	6	.10	S	4	o p d m
	Noon.		SSE	4	b c m
	3		S	4	b c u P
	7	.30	..	2	b c v
12*th.*	5		SSE	1	b c v
	10	.50	S	1	b c g
	Noon.		..	1	P R
	3			0	b c u p
	4			0	Thunder.
	5			0	U P
	6				C
	Night	.60		0	Very clear.
13*th.*	6			0	f
	10	.65	S	1	b.c.g

with the Barometer falling whilst she stood to the Northward on the port tack, and rising when she stood to the Southward on the starboard, the wind veering to WSW. WNW. NNW.

To the Prince Albert the Storm commenced from the NE. hauling to N. but as she was to the North-&-Westward of the Storm as it approached her on the 5th, her course drew her away from its track, and she soon escaped it, the wind, as it fell, veering from N to NW, from which we see that she must have been in its left-hand hemisphere.

It must have passed then between the Prince Albert and the Northumberland, and on the 7th the Storm overtook the Niagara to the Eastward of Halifax, near which town it must have passed about Noon of the 7th, as the Barometer at Prince Edward's Island having fallen with a NE. wind during the morning of that day, rose with a North-westerly wind during the afternoon. The centre at Noon of the 7th, was therefore in Lat. 44.00 Long. 63.00.

The speed of the Niagara enabled her for some time to keep in advance of the Storm; but on the 8th it passed her to the Northward, leaving her to the right of its axis. The want of any Barometrical record in the Admiralty Agent's report has been supplied to me by the Abstract of Capt. Tinker of the Margaret Evans London and New York Liner, which at this time was at no great distance from the former vessel, and at 9 am. of the 8th, her minimum marked 29.20 having been overtaken on the previous days by strong wind at ESE. SSW. SW. and W, with rain thunder and lightning, concluding as the Barometer rose with a hard gale at W. and WNW.

I place therefore the centre of this Storm on the 8th, in Lat. 47.00 Long. 50.00 about two degrees to the Northward of the Niagara.

The Storm had now travelled to the Northward of the track of vessels navigating the North Atlantic. At this time the Dolphin in Long. 26 W. was becalmed nearly 25 degrees to the Eastward of the Niagara, and by 9 am. of the 9th, her Barometer had fallen from 29.60 to 29.00 the wind veering from SW. to W. WNW. and NW. The Frances Walker, off the Azores, indicates the same facts, with which the William Money and Hashemy, which lay a little to S & E of her, coincide.

But having seen in what manner the wind veered with the Dolphin, the reader will not be a little surprised to find, that with the America (Cunard Line Steamer) the Storm began at S.

veering to SE. & E. not exceeding fresh breezes, whilst the Frances Walker, 10 degrees to the Southward, had a strong gale at NW. I conceive therefore that on the 10th, the America must have been in the Storm's-eye, though probably on the Northern, left-hand side of its axis, and that the Frances Walker, Dolphin,, &c. must have been on the opposite *i.e.* Southern side.

In this case the Storm's-eye must have been between the Ocean and America, viz. in Lat. 48.00 Long. 25.00.

This position agrees with the Log of the Severn, which was nearest to the Storm's-eye about Noon 9th to Noon 10th, the wind veering from SW to W. WNW. NW by W. NW. and NNW.

The Log of the Southampton confirms this supposition as she had the wind during the 10th at SE. veering to NNE & WNW. and therefore the Storm's-eye passed to the South of her between Noon of the 10th and Noon of the 11th.

If we refer to the Barometers of the Montrose and Jupiter (P. & O. Co. St. Ships,) we shall see that their greatest depression was towards Noon of the 11th, at which time the former vessel was off Oporto, and the latter to the Northward of Cape Finisterre, the wind in both cases veering from SW to W and NW. although as the Montrose's course lay along the Coast of Portugal and Spain, the changes of the wind partook of the irregularities arising from the high and moutainous nature of the land to *leeward of her.*

We may here review the different directions in which the wind was felt according to the positions of the various vessels as the Storm approached this country.

On the 9th, when we may suppose its centre to have been in Lat. 48.00 N. Long. 37.00 W. the Niagara had a moderate breeze at North, with a heavy sea from NE; the Margaret Evans a hard gale at WNW; the Frances Walker and William Money heavy gales and tremendously heavy sea at WNW, whilst the Hashemy about three degrees to the Eastward of them had the wind still at SSW. variable to S. and W. increasing, and the sea getting up; the Severn, at SSW. to SW. and W.; the Dolphin at W by S.; the America at S. and SE.

At Noon of the 10th, when we may suppose the centre to have been in Lat. 48.00 Long. 25.00 we find the Niagara becalmed in Long. 40.00 with a light breeze springing up from the Southward, the commencement of Storm *G.* The Frances

Walker, which during the morning had had a strong gale at NW, was now dropping behind the Storm, and had let the close-reef out of her topsails; the William Money, six degrees to the Eastward, had still a brisk gale at NW with very heavy squalls and a high sea running, she was labouring heavily and shipping much water; to the Hashemy, two degrees to the SE of the William Money, the gale was moderating and veering to NW and WNW; the Dolphin was lying to nearer the centre of the Storm, with wind at NW still a very heavy gale, and a Barometer down to 29.00. *the Ocean in Lat.* 45.52 *Long.* 25.16 *had the wind at W by N, and the America in Lat.* 50.7 *Long.* 24.50, *nearly four degrees due North of the Ocean had the wind at SE and E,* but only a fresh breeze; the Storm's-eye must consequently have been passing between these two last-named ships.

The foregoing vessels were to the Westward of the Storm's-eye (except the last) but the Southampton in Long. 12.00 had the wind SE, and then a calm, with torrents of rain; the wind with her as she ran into the Storm on the following morning veered to NE. and WNW.; the Storm's-eye therefore, I presume, passed over her, but rather to the Northward—but I am anticipating the order of narration.

To resume therefore from Noon of the 10th, the Severn to the SE. of the Storm's-eye had a fresh gale at WNW. and NW by W, but as she had to struggle against a foul wind she made but little way, and her Barometer remained stationary until Midnight of the 10th, at which time the Storm's-eye had passed beyond her.

The Montrose and Jupiter which on the 11th at Noon were in a line from each other nearly due North and South, and therefore perpendicular to the track of the Storm and a little to Westward of the Scilly Islands, had their maximum depression of Barometer about the same time, viz. 3 am. of the 11th; with the Montrose, which was eight degrees to the Southward of the Storm's-eye and standing towards it, the Barometer fell only to 29.50 and rose slowly; with the Jupiter which at that hour was five degrees to Northward of the Montrose, but standing away from the Storm's-eye, the Barometer fell to 29.00 and rose rapidly.

With the exception of the America and Southampton all the vessels hitherto mentioned were to the Southward of the Storm's axis, but on its approaching the Channel our points of observation begin to show that it passed to the Southward of these Islands

At the Scilly Islands the greatest depression was from 9 pm. of the 10th to 3 am. of the 11th, *but the wind veered from SE to ESE and NE,* though at this time it was NNE to the Southampton, NNW to the Severn, and W by N to the Jupiter; the proofs of its rotatory nature are therefore here most convincing.

In regard to the extent of this Storm to the Northward there is some degree of doubt from the circumstance before stated at Page 45, that in the North of Scotland the Barometer rose continuously from the passage of Storm *E.* till the approach of Storm *G.* viz. from the evening of the 9th till the morning of the 14th; and although it reached the Montrose off Oporto, yet at Madeira it was scarcely felt, the wind there being "light at W, SW, and NW."

Neither over the Continent have I been able to trace this Storm by the Barometer, which continued to rise in a similar manner both at Frankfort and Copenhagen from the 10th to the 13th, at the former place the wind during this period veered from SSW to WSW and W, the rise of the Barometer being suspended at Noon of the 12th; and at Copenhagen the wind veered from ESE to E. ENE. NNE and N. being exactly in the contrary way, and we may therefore suppose the Cyclone to have passed between them.

At Heligoland Lighthouse the Barometer fell on the evening of the 10th, the wind being light at SE, then calm, and the next day in the afternoon it rose again, the wind being at ENE; this is not unlike the characteristic veering of a Cyclone, but it may be thought trivial, and therefore I merely throw out the suggestion for the consideration of others; the Siren* off Elsinore had at this time fresh gales at SE, with rain and thick weather.

In tracing Storm **K.* I shall have occasion to state more fully an explanation of the manner in which some Cyclones cease to be felt; I would here merely allude to the hypothesis, which is that they tower like a wounded bird, and travel upwards horizontally, in a manner just the reverse of that in which birds of prey swoop on their victims; this may appear fanciful, but the illustration is just, and will I think clearly convey my meaning and idea of the manner in which this Storm left the earth.

It has been shown at Page 50, that at Noon of the 10th, the

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* For Log of Siren see Appendix Part II.

Storm's-eye was between the Ocean and the America, *i. e.* in Lat. 48,00 Long. 25,00 As the Niagara was becalmed in Long. 40 W with the commencement of Storm *G.* we have the extent of Storm *F.* in the direction of its rear quadrants well defined.

At the Scilly Islands as early as 3 am. of the 10th, the Barometer had fallen in six hours from 29,43 to 29,29 and the wind had shifted from WNW to SW, so that the Storm must have extended Eastward even further than Westward: therefore we may assign to it on the 10th a diameter of more than 40 degrees of Longitude.

Probable Track of Centre of Storm, and position on the following days.

April	3rd—4th,	Over Gulf of Mexico.		
	6th, Noon.		Lat. 35	Long. 73
	7th,		44	63
	8th,		47	50
	9th,		48	37
	10th,		48	25
	11th,		50	5 E
	12th,	Between Frankfort & Copenhagen.	52	8
	13th.	Over Russia.		

I shall now proceed to consider the Sections in the Appendix which have reference to Storm *G.*

STORM *G.*

APRIL 13th—14th.

For Log of	From	To	See Page
Velocity	April 7,	April 9,	cxvii.
Northumberland	[*] 8,	10,	—
Clyde	8,	10,	cxviii.
Avon	8,	10,	—
Chanticleer	8,	11,	cxix.
Margaret Evans	9,	11,	—
Niagara	10,	12,	—
Rollo	10,	13,	—
Dolphin	10,	13,	—
Frances Walker	10,	13,	cxx.
Ocean	11,	13,	cxxi.
Hashemy	11,	13,	—
Severn	11,	13,	cxxii.
Brilliant	11,	13,	—
William Money	11,	13,	—
America	10,	13,	cxxiii.
Wellington	10,	13,	—
Southampton	11,	13,	—
Isabella Blyth	11,	13,	cxxiv.
Montrose	12,	14,	cxxv.
Jupiter	12,	13,	cxxvi.
Sultana	11,	13,	—
Courier	12,	13,	—

On the afternoon of the 13th the Barometer, which had been rising steadily since the morning of the 11th, began again to give way with a very gentle Southerly breeze, with rain, suc-

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[*] These observations represent the extremes of daily fluctuation, unless otherwise stated, being taken from an early hour of the morning until late at night.

STORM G.

Day.	Time.	Barometer.	Wind.	Force.	Weather.
April 13*th.*	10	29.65	S	1	b c g
	Noon.		..	1	o
	5		..	1	r
	6				U V b
	Night	.60		5	Clear.
14*th.*	6		W	1	b c v
	9	.68	..	1	b c u v

ceeded by very ugly looking weather, and an horizon extremely visible,* succeeded by a fresh breeze during the night, and in the morning the wind veered to West, blowing gently, and the Barometer rose; the utmost variation of my Barometer was from 29,65 to 29,60 and to 29,68, and it might be thought that so trifling a fluctuation could hardly be connected with the passage of a Rotatory Storm; nevertheless we shall see that this was a Cyclone passing from America over England; though probably at a very considerable elevation.

It is true that as regards this Storm, I cannot show that it is *circular*, as it lay so far to the Northward of all the usual points of observation, that only its Southern hemisphere passed over any of them, but if the distinctive characteristics of a Cyclone, viz. the veering of the wind and coincident fluctuations of the Barometer, are clearly established in this instance so far as facts permit, I may justly claim to have brought this Storm also within the principle that the Rotatory and Progressive Theory of Storms is of universal application.

Commencing at Toronto in Canada West, we find that during the 7th the wind was at SSE the Barometer falling, in the evening at West, and the next morning at NW by W, the Barometer rising. It is to be noticed that the Thermometer stood remarkably high on this occasion as the Storm was approaching, which would also show that it blew from a warmer Latitude, and that after it had passed off the Thermometer fell unusually low, which shows that it went to a colder one; I suppose then that about Midnight of the 7th—8th the centre was to the Northward of Toronto, in about Lat. 46.00 Long. 82.00.

About four degrees to the Westward, H. M. S. Mohawk on Lake Huron, had a strong breeze with snow squalls in the afternoon of the 7th, increasing to a fresh gale from NW at Night.

On the 8th at 6 am. the wind at Rhode Island had shifted from NW (Storm *F.*) to SW, and the Barometer began to fall, with a high Thermometer; in the evening the Barometer rose, and the Thermometer fell below freezing point under the effect of a "very blustering NW wind;" we find that here the greatest force of the wind was in the hinder quadrants of the Storm.

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* This state of the horizon is generally considered a forerunner of rain; it is certainly attended by light winds, and I conceive it to arise from the approach of a Rotatory Storm of which the front quadrants are at an extreme degree of upward inclination.

At Prince Edward's Island the Storm commenced about Noon of the 8th, the Barometer falling as the wind shifted from SE to SSW, and rising as it veered to NW, NNW, N. the greatest depression was at Noon of the 9th.

The position of the centre as deduced from the observations taken on the Continent of North America at Noon of the 9th, would therefore be in Lat. 48.00 Long. 76.00 and at Noon of the 8th, in Lat. 50.00 Long. 67.00.

These positions are confirmed by the Logs of the few vessels I have met with, off the Bermudas and the Coasts of North America.

The Velocity had the wind from the Westward: during the 7th when the centre of Storm *F*, was in Lat. 35.00 Long. 73.00 *i. e.* two degrees to SE of her, she had the wind at *North*, but as she fell within the influence of Storm *G.* which lay to the Northward of her on the 8th—9th, the wind shifted to WNW, then SW, and then WNW.

The Clyde at Bermuda began to feel the Storm in the afternoon of the 8th, the wind having shifted from WNW to SbyW, then WSW. WNW. NW; the force of the wind was not much here, but during the 8th as the Barometer fell it was "light," and as the Barometer rose it increased to "moderate & steady."

The Avon to the Eastward and Northward of Bermuda was overtaken by the Storm [*] in the evening of the 8th, when the wind veered from N to E and S, but as her speed enabled her to keep ahead of the Storm her Barometer fell very slowly till 6 pm. of the 9th, as the wind moved round the compass to W, and then, as the Barometer rose, to NW.

Although this Storm never exceeded "strong breezes," it set the Avon 20" to South, and 8" to East, of her reckoning[†]; and although in fine weather, in the open sea of the North Atlantic, such an error in her position was of little consequence to a Steamer, it is evident that nearer land during the night, or even in a navigation rendered dangerous by coral reefs, it might have produced very serious results.*

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[*] See Appendix Page cvi.

[†] In giving the position of the ships of the R. M. W. I. St. P. Co. where the Dead Reckoning and Observation nearly agreed, I generally omitted the former, from thinking at the time I copied the Logs that it was only an unnecessary trouble to the copyist, and would be an useless addition to the bulk of this Memoir; but I now regret much that I neglected so very important a basis of argument; the extreme closeness with which the two modes frequently coincide, show the carefulness and accuracy with which the course of the vessel is noted, and prove how unusual and exceptional must be the circumstances which could have brought the Avon so far out of her supposed course.

Between Noon of the 8th and Noon of the 9th, the Barometer of the Northumberland fell from 30,00 to 29,20, the wind being SW to WNW, and then NW; and at Midnight rose again the wind becoming more violent. At this time she was about 150 miles South of Halifax, and was nearer the axis of the Storm than any of the vessels whose Logs I have met. Her course being Westward, as the Storm travelled Eastward she was soon out of it, and was on its Western boundary with a rising Barometer and a light clear breeze in Lat. 40,50 Long. 63,36 at Noon of the 10th,† when the Storm's-eye may be supposed to have been in Lat. 51,00 Long. 50,00.

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* This circumstance leads me to advert to the recent total loss of two valuable ships which aptly illustrate the cases above referred to, the fine Trader RANDOLPH, the property of Messrs. Dunbar, of Limehouse, with the name of which by the perusal of the foregoing pages my readers must have become intimate, and H. M. Screw Steamer REYNARD.

The Randolph near the Mauritius on the 2th July was cast ashore in the dark and totally lost under circumstances that can hardly be accounted for, except by the supposition that some unusual current must have prevailed, which in her case, as in that of the Avon's above referred to, could not have come within the observation of her Commander, and which possibly might have been produced by a Rotatory Storm passing at a distance, not of sufficient force to be taken into account in steering a ship, but yet setting her off her course at a time when the darkness rendered it impossible to perceive danger, until too near to be avoided.

The Reynard in the China seas at 4 am. May 31st, and in calm fine weather, ran on a coral reef, although every precaution had been taken to anticipate and prevent such a catastrophe; she sunk in deep water, and so rapidly, that scarcely a single article of property, public or private, was saved.

The loss of the Reynard "is stated to have been caused partly by the high tide," and this I would venture to suggest may have been owing to a Cyclone passing at a distance, which would doubtless force a considerable quantity of water to the portion of open sea beyond the area over which it was moving; and thereby not only set the Reynard off her supposed course, but render the coral rocks under water less easily discernible, as she approached them, from the greater depth of the water which covered them. Indeed I have little doubt that this will turn out to have been the case, as I understand that her wreck was preceded by light Easterly and South-easterly winds, and followed by very bad weather and wind at South, which coincides exactly with the course of a Cyclone travelling from East & South to West & North, the usual track of Typhoons in the China seas.

† It will be shewn in Storm *H.* how the Northumberland continued to have the wind from the same quarter, with a rising Barometer, for several subsequent days, although she was then within the influence of another Cyclone; these details are interesting and important since they show that several successive Cyclones may pass over or near a vessel without any sufficient distinction to enable her Master to perceive the change of the quarter from which danger is to be apprehended.

The Frances Walker is the next vessel whose Barometer gives an indication of the position of the Storm. At Noon of the 10th, when we have seen the Northumberland was on its South-western edge, she was on the South-eastern, as her Barometer stood at 30,10, wind NW, and a little before Midnight she began to feel the Storm, she being then in Lat. 41,20 Long. 31,00. As her course carried her on along with the Storm, she continued to feel it for a proportionably longer time, viz. from Noon of the 11th to Noon of the 12th. Assuming the Storm's-eye to have been in Lat. 51.00 Long. 34.00and Lat. 51.00 Long. 17.00 at these respective periods, we shall see that the Logs of the following vessels agree with these positions, and if we take them in their order we shall see that as they lay from each other commencing at the Westermost, they had the shifting of the wind accordingly;

Ocean; 11 am. of the 12th, "wind then blowing a fresh gale at WNW chopped round to NW."

Hashemy; am. of the 12th, Moderate breeze at South; pm. Do. SW.

William Money; Noon 12th. Excessive heavy squalls at SW and increasing: at 10 pm. Sudden shift to NW.

The Southampton in Lat. 48.54 Long. 15.00 had pleasant weather with wind at NNW from Noon of the 11th to 8 am. of the 12th when she was becalmed, being then on the Western edge of Storm *F*. At 10 am. the wind sprung up at WSW, veering to SW, and at 1 pm. to WNW, and as she was on the port tack, and heading ENE she had "strong Westerly gales."

At Noon of the 12th the Sultana had "light airs at NW and fine weather." And at 4 pm. the wind began to veer to W and WSW, and at 8 am. of the 13th to NW.

The Montrose from Vigo to Southampton, running towards the Storm had a fall of the Barometer until 8 am. of the 13th, and at 1 pm. the wind with her also veered to NW, and at 4 the Barometer had again risen. From her Log I deduce the position of the Storm at Noon of the 13th to have been in Lat. 53.00 Long. 2.00 and at this time she must have been on the edge of the two Storms *G*. and *H*.

On the other hand the Jupiter, which was steering Southward away from Storm *F*, was going away from Storm *G* also, and had merely moderate breezes and a Westerly swell, consequently her Barometer rose; nevertheless on reaching Vigo so unsettled was the weather that Capt. Meehan deemed it prudent to land the Oporto mails, anticipating the difficulty of disembarking off the mouth of the Douro.

Hitherto the track of this Cyclone had been Eastward, but on reaching the Coast of Ireland it moved North-eastward, and produced but little effect on this country. By a comparison of the Reports from Scilly Islands and Flamborough Head Lighthouses, it appears that at the former the greatest depression was at 9 am. of the 13th, the wind being SW, veering before 3 pm. to NW, and at the latter about Midnight, the wind being SE and veering to NE, as though the Storm's-eye had crossed the centre of England and passed between them.

This is consistent with the observations at Applegarth Manse in Dumfrieshire, at which the afternoon of the 13th was cold and windy from SSE with a falling Barometer, which had risen at 9 am. of the 14th.

At Heligoland the Barometer fell slightly during the morning of the 14th, as the wind veered from ESE to SE, and at night it rose again as the breeze fell calm and then backed to ENE.

When I originally examined the details of the weather for the period which is the subject of this Memoir, I supposed that Storm *G.* had passed off towards Iceland,* and that merely the outskirts of it had reached this country. I was led to this conclusion by two causes: firstly, from my slight experience in Cyclonic Meteorology, I was not then aware that a Storm's-eye passing over any given area would produce a depression of the Barometer so slight as ,08 of an inch; and secondly, from the course taken by the Storm over that portion of the American

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* *Iceland, and the Azores, may for Meteorological purposes be considered as the Barriers of the North Atlantic Ocean, and* Reikiaviz, *and* Fayal *as the two Centinels, who observe all passing Storms. Situated nearly opposite to each other in about 27 degrees of West Longitude, the former in* 65,00, *the latter in* 39,00 *of North Latitude, they would serve admirably for the purpose of noting the fluctuations of the Barometer, as I imagine that nearly all the Cyclones of the North Atlantic Ocean pass to the Southward of Iceland, and to the Northward of the Azores; that is to say, all except the* very few *which travel up the Coast of Labrador, and towards Greenland; or up the Coast of Africa, and across the Mediterranean. From such Barometrical observations I conceive it might not be difficult to construct a Table showing a* fixed relative proportion *of fluctuation, viz. that when the Barometer at* Reikiaviz *was depressed below the average, then there would be less effect produced at Fayal; such observations would be an extremely valuable addition to our present stores of scientific knowledge; it will be requisite however, that both should be kept according to the English, or else both according to the French measurement, otherwise the comparison would fail.*

Continent where its axis was clearly defined, I was led to suppose it had travelled in a Northerly direction, which conclusion appeared to be borne out by the Logs of the few ships I had then met with.

Probable Track of Centre of Storm, and position on the following days.

April 7th—8th, Midnight.	Lat. 46	Long. 82
8th, Noon.	48	76
9th,	50	67
10th,	51	50
11th,	51	34
12th,	51	17
13th,	53	2
14th,	54	8 E

* * *

I shall now proceed to consider the Sections in the Appendix which have reference to Storm *H*.

STORM *H.*

April 14th—15th.

For Log of	From	To	See Page
Velocity	April 9,	April 11,	cxxvii.
Northumberland	10,	12,	—
Clyde	10,	12,	cxxviii.
Avon	10,	12,	—
Chanticleer	10,	12,	cxxix.
Margaret Evans	10,	13,	—
America	12,	14,	—
Dolphin	12,	14,	—
Rollo	12,	14,	cxxx.
Niagara	11,	15,	—
Ocean	12,	14,	cxxxi.
Frances Walker	12,	14,	—
Severn	12,	14,	cxxxii.
Hashemy	12,	15,	—
William Money	12,	15,	cxxxiii.
Southampton	13,	14,	—
Brilliant	13,	15,	—
Isabella Blyth	13,	15,	cxxxiv.
Jupiter	13,	14,	—
Sultana	13,	15,	—
Montrose	13,	15,	—
Wellington	13,	15,	cxxxv.
Cambria	14,	16,	—
Courier	15,	16,	cxxxvi.

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* These observations represent the extremes of daily fluctuation, unless otherwise stated, being taken from an early hour of the morning until late at night.

	Day	Time.	Barometer.	Wind.	Force.	Weather.
Storm *H.*	*April* 14*th.*	1	29.68	SW	2	o m
		6		S	4	b c m
		Night	.56			Very wet and windy.
	15*th.*	6		S	5	o r
		10	.20	SW	6	b c m
		1		SW	8	
		4		SW	6	b c m q
		7		S	6	o m q
Storm *I.*		Night	29.10			Stormy & boisterous.

This Storm I suppose originated on the 10th, in Lat. 40 N. Long. 65 W. between the Bermudas and Halifax, to the Eastward of New York, on which day a slight fall in the Barometer is recorded at Rhode Island.

On the 11th at Noon, it passed to the Northward of the Avon which in Lat. 38.48 Long. 51.00 had the wind at NW. N. NE. but not exceeding a strong breeze and squally; it could not have been of very great extent on the 11th, as it does not appear to have reached Prince Edward's Island. I place its centre for Noon of the 11th in Lat. 42.00 Long. 51.00.

At this time the Cyclonic area was extending rapidly and moving Eastward and Northward. In the afternoon of this day whilst it was blowing a strong breeze at N & NW to the Avon in Long. 51.00, it was at West to the Chanticleer, and "strong and squally at SW. and W. with rain and bad weather" to the Margaret Evans in Lat. 36.30. The effect produced by it on the sea at this time must have been considerable, as a current set the former vessel during the next 24 hours .20 to the South and .23 to the East of her *reckoning.

During the 11th and 12th it overtook the Margaret Evans in Long. 36.29 and 31.26 passing to the Northward of her, as also of the Rollo, Dolphin, and R. M. St. P. America, which last vessel would seem to have ran through the Storm's-eye on the 12th, as she had only *moderate* breezes. It is much to be regretted that the very meagre outline presented by the Reports of the Admiralty Agent fails at the very point where detailed information might be so serviceable; the centre on the last of these days would be in Lat. 51.00 Long. 35.00.

Having overtaken Storm *G.* it curved Eastward, towards Ireland and Scotland, overtaking the Niagara, with a wind at SW and WNW. on the 12th, whilst it moved to the N. and the centre of it having overtaken that vessel on the afternoon of the 12th, she began to experience light variable breezes with cloudy weather on the morning of the 13th.† The Storm having now reached the high lands of the West of Ireland was again headed off, and before it could move Northward, the Niagara ran on a-head into the Eastern or front portion of it, and had winds at SSE. and SW. on the 14th, at which time I conclude it to be moving onwards again towards the North, having its front lifted up, and its Southern or hinder quadrants pressing on the Bay of Biscay, and of the sea to the North of the Azores.

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* We have here another instance, similar to the one previously noticed at Page 55, of a current produced by a Cyclone, sufficient to set a vessel a considerable distance out of her reckoning, although she had not experienced any wind sufficiently strong to lead her Commander to anticipate such an occurrence.

† Should any Barometrical observations taken on board the Niagara ever come to light, it would be a curious coincidence should they show a fall from Noon 12th till the 13th, and a rise from the 13th to the 14th.

The Centre at Noon of the 13th would appear to have been in Lat. 52.00 Long. 19.00, as at this time the Dolphin had the wind at WNW; The Severn (whose minimum on this day is marked at 4 pm.) had the wind veering from SSW to WSW, W, and NW; The Hashemy, and William Money, had fine pleasant weather and smooth water, with moderate breezes at S and SW; these two vessels were in advance of the Storm, being now on the outermost verge of Storm *G;* The Southampton to the Northward of them had the wind at SW. The Jupiter at Vigo, bound to Lisbon and Gibraltar, had strong breezes at WSW, her Barometer was at 30.05, and as she stood to the Southward out of the approaching Storm was not depressed by it, although the appearance of the weather at Noon of the 13th *was so unsettled that Capt. Meehan deemed it prudent to land the Oporto Mails at Vigo,* an occurrence so unusual that it sufficiently indicates how threatening the state of the weather must have been, nevertheless the Jupiter had only moderate breezes, and her Commander might have been thought to be overcautious in hesitating to approach Oporto, even though an inconvenient landing, and on a lee shore, did not the Log of the Frances Walker show how justly he foresaw the proximity of danger and the quarter from which it was to be apprehended.

The Storm's-eye from the position above assigned to it, must have been passing a little to the Northward of the Frances Walker at this very time, and the Ocean having had strong gales during the forenoon from SE, SE by S, and SW, had a sudden chop of the wind at 2 pm. round to ENE. This would show that the Storm's-eye must have passed extremely near to the Ocean; up to 2 pm. she would be in advance of the Storm but to the right of its axis, and after that hour in the rear but to the left of it, and in the remaining part of the day the wind veered to NNE and N, and then fell calm as she was on the confines of Storm *I.*

The Montrose, which at Noon of the 13th was on the Eastern edge of the Storm to the Northward of Cape Finisterre, ran before it, and continued to have the wind from the South until her arrival at Southampton at Noon of the 15th. It is evident that this Storm must have travelled very slowly and have been of very small diameter. The Barometer of the Montrose fell ,80 of an inch, but this depression did not come to its lowest point until 36 hours after its commencement, although in this lengthened period she moved over only seven degrees of Longitude, and at 8 pm. of the 13th, when the Storm began to be felt by the Montrose in about Lat. 10.00 Long. 7.30 it had quitted the Margaret Evans in Lat. 46.50 Long. 28.00 so that it could not have exceeded a diameter of 20 degrees of Longitude.

It reached the *Scilly Islands early in the morning of the 14th, commencing at SW, and in the afternoon had increased to a strong breeze at SSE, veering to SSW. This would indicate that the Scilly Islands were in the right hand hemisphere of the Storm, and that it was taking a Northerly direction.

This conclusion is confirmed by the Reports from Flamborough Head, at which the commencement of the Storm was not felt until the afternoon of this day; and at Sandwick Manse (in the Orkneys) and at Sumburgh Head (in Shetland) not until the Evening.

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* It is worth observing that in the evening of the preceding day the (V.) visibility of distant objects is noted; the connection between this phenomenon and the approach of bad weather has been already referred to at Page 54.

Probable Track of Centre of Storm, and position on the following days.

April 10th, Noon.	Lat. 40	Long. 65
11th,	42	51
12th,	47	32
13th,	52	19
14th,	57	10

I shall now proceed to consider the Sections in the Appendix which have reference to Storm *I*.

STORM *I*.

April 15th.—18th.

For Log of	From	To	See Page
Velocity	April 11,	April 13,	cxxxvii.
Northumberland	11,	13,	—
Clyde	12,		—
Avon	11,	15,	cxxxviii.
Westminster	10,	13,	cxxxix.
Chanticleer	12,	15,	—
America	14,	16,	—
Rollo	13,	15,	—
Dolphin	13,	15,	—
Ocean	13,	15,	cxl.
Severn	14,	16,	—
Brilliant	13,	18,	cxli.
Jupiter	15,	18,	—
Frances Walker	13,	18,	cxlii.
Margaret Evans	13,	19,	cxliii.
Southampton	14,	18,	—
Sultana	14,	18,	cxliv.
Hashemy	15,	18,	—
William Money	14,	18,	clxv.
Cambria	15,	17,	clxvi.
Niagara	14,	15,	—
Dee	17,	19,	—
Iberia	17,	19,	cxlvii.
Courier	17,	18,	—
Coldstream	15,	18,	—

This Storm appears to have been formed to the Eastward of the Bermudas on the 12th, on which day the Avon ran into its Northern quadrant, and the Chanticleer into its Southern side.

I conceive its centre to have been about 37.00 North Lat. & 40.00 West Long. at this time ; and that it was moving to the Northward and Eastward.

The Avon was nearest it on the morning of the 13th, but as she was behind it, she soon dropped astern of it, and although her Barometer continued to rise, the weather became worse, increasing from a strong breeze at Noon of the 13th to a fresh gale in the Afternoon, and a strong gale at 8 pm.

I imagine its centre at Noon of the 13th to have been in Lat. 42.00 Long. 37.00,

This is a very good instance of the advantage of noting the Barometer regularly; for though from the Log of the Avon alone it could not be *proved* that this was a Rotatory Storm moving away from her, and leaving her each hour at a greater distance from danger, yet by comparing it with the other Logs it is evident that this was the case, and we see that the Barometer *was* a *certain* guide; that its fluctuations *did not* depend on the force of the wind, but that in the same manner as we have frequently noticed* a considerable fall without any great increase in its violence; so here on the other hand we have a rise of ,20 of an inch whilst the wind was increasing from moderate breezes to strong gales.

It will be observed that during the evening of the 13th whilst the wind was backing with the Avon from E, to NNE, N, and NNW, the Chanticleer to Eastward of her had the wind veering from S & W, to WNW, then W, and then NW.

At 15 minutes am. of the 14th, it reached the Ocean which

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* See for instance Pages xxi, Griffon; xlvii, Camperdown.

These observations represent the extremes of daily fluctuation, unless otherwise stated, being taken from an early hour of the morning until late at night.

	Day.	Time.	Barometer.	Wind.	Force.	Weather.
Storm L	15*th.*	7		S	6	o m q
		Night	29.10	Stormy & boisterous.		
	16*th.*	6	.00		8	o m p d q
		Noon		S	8	o m p r q
		2	28.90			
		4	.90			
		6		S	8	o m p r q u
		Night	29.10			Rainy.
	17*th.*	6	.40	SSW	5	b m p d r u
		Noon		..	5	o m p r u
		6		..	3	b g m c u
		7				b c v
			.70			
	18*th.*	6	.85	W	3	B c v
Storm *K.		10		SSW	3	b c v
		1		..	3	b c g v
		6	29.92	SW	4	b c v

was lying becalmed nearly a-head of the Avon in Lat. 44.40 Long. (about) 28.20; in three hours "Heavy squalls with lighning* came on from SW by S, veering to W & NW, increasing to heavy gales at NW by N, NNW and N.

On the other hand with the Margaret Evans, two degrees nearly due North of the Ocean, the wind veered from NE to NNW, NW by N, NW and WNW, moderating at W. She must therefore have been on the contrary side of the Storm which I conceive to have passed between the Ocean and the Margaret Evans about Noon of the 14th.

Its centre on the 14th may therefore be assigned to Lat. 46.00 Long. 26.00.

At this time the Frances Walker, to the Southward of the Margaret Evans was lying to on the starboard tack with a hurricane† from the Westward. She had dropped behind the William Money and Hashemy, and she was near the centre of Storm *I.* whilst these two vessels were still within the influence of Storm *H.* They had kept on during the 13th, at the time the Frances Walker was hove to,‡ and had got so far ahead of her that they did not feel the heaviest part of the gale until some hours later. Their case was similar to the Sea Park and Randolph already described in Storm *C.* which vessels had the hurricane in precisely the same manner and under the same circumstances, with the exception of *time;* The Sea Park suffered from the force of Storm *C.* some hours before it reached the Randolph, and the Frances Walker had experienced the heaviest part of the gale some hours before it reached the Hashemy.

Having no Barometrical observations to indicate the progression of this Cyclone after it passed the Frances Walker at Noon of the 14th until it reached the Scilly Islands, I am obliged to have recourse to conjecture to supply its exact position at Noon of the 15th and of the 16th.

That its position at Noon of the 15th was in Lat. 47.00

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* From careful observations during the Summer of 1851, it appears to me that thunderstorms generally occur at the exterior of two Cyclonic currents, and that they arise from the friction of two revolving atmospheres. It is certain that thunder-storms in the extra-tropical regions seldom occur unless the Barometer be very high.

† The remarks of Capt. Hay, and the details of her Log are most valuable, and it will be well worth the trouble, if the reader would compare them with the other Logs relative to this Storm.

‡ See Storm *H.*

Long. 17.00 may be inferred from the consideration of the following facts.

The Margaret Evans had a heavy gale at NW by N.

The Southampton heavy gales at NNW, and a very heavy sea.

To the Frances Walker the gale was moderating, but still blowing strong, with a high sea and the ship labouring heavily.

The Jupiter at Lisbon had a strong breeze at SW by S, with dark threatening weather; but as she stood on Southward towards Cadiz and Gibraltar, her Barometer rose rapidly, and she ran away from the Storm,

The Sultana to the Northward of Cape Finisterre had hard gales at WNW; as she was kept on the *port* tack during this gale she lay off her course for two or three days and thereby not only suffered so much unnecessary wear and tear, but was delayed for that space of time in arriving at her destination; had she been laid to on the *starboard* tack she would have run out of the gale, and had a fair wind down the Coast of Spain.

At this time (Noon 15th) this Storm was reaching the entrance of the Channel, and the Niagara off Cape Clear had the wind at South.

The William Money had the wind still at WSW, and the Storm was overtaking her rapidly, but as her course led her away from its track and the Storm's-eye lay to the North-and-Westward of her, on being hove to in the evening of this day she let it pass her; although her Barometer is not recorded in the ship's log, I understand that in Captain Buckley's private Journal it is noted carefully; I regret I have not been able to obtain it, but I have no doubt the time of the greatest depression was about Midnight of the 15th—16th.

The Hashemy had the breeze increasing and the sea getting up again.

The most severe part of this Storm appears to have been in the hinder (*i. e.* Southwesterly) quadrants of this Storm as if the front of it (*i. e.* North-easterly) had been lifted upwards by the high land of Ireland; or possibly the effect of the wind on that side may have been neutralized by the action of the hinder part of Storm *H.* the centre of which at Noon of the 15th has been shewn to have been in Lat. 57.00 N Long. 10.00 W.

The rotatory nature of this Storm on its reaching England is very evident. At the Scilly Islands it set in at SWbyS at Noon of the 15th blowing a strong breeze and the Barometer resumed its downward tendency; which at 3 a.m. of the 16th was at its minimum, with a fresh gale at WSW, continuing until 9 am. At 3 pm. the wind had moderated and veered to WNW, with a rising Barometer; at 9 pm. it was NW.

At Dorchester the gale recommenced in the evening of the 15th, increasing at S. and the Barometer falling until 2 pm. of the 16th; at 4 pm. the Barometer began to rise, and in the morning of the 17th the wind veered to SSW, and of the 18th to W.

At Flamborough Head the Storm set in from SE and SSE veering to SW, SSW, and S, at which it remained during the greatest depression of the Barometer through the evening of the 16th, and at 3 am. of the 17th it had risen, and the wind had shifted to WNW.

Such a change as from S to WNW, would argue that the Storm's-eye must have passed near the above Light-house, and I think that it travelled up the Western Coast of Scotland, and then must have crossed the Orkneys towards Norway.

The centre at Noon of the 16th would be to the Westward of the Scilly Islands, say in Lat. 52.00 Long. 16.00, and on the 17th probably in Lat. 60.00 Long. 4.00.

The veering of the wind on the Continent coincides with the changes observed in the South of England, commencing at S, and then SW, WNW, and N, as noted at Frankfort. At Nyholm in the Sound, the wind continued from the Southward, which may be accounted for by the circumstance of the local atmospheric current of its position.

Probable Track of Centre of Storm, and position on the following days.

April 12th,	Noon.	Lat. 37	Long. 40
13th,		42	37
14th,		46	26
15th,		47	17
16th,		52	16
17th,		60	4

I shall now proceed to consider the Sections in the Appendix which have reference to Storms **K*—*K*.

STORMS *K—K.

April 18th.—22nd.

For Log of	From	To	See Page
Velocity	April 14,	April 16,	cxlix.
Northumberland	12,	15,	—
Clyde	13,	16,	cl.
America	15,	18,	cli.
Rollo	15,	16,	clii.
Dolphin	15,	17,	—
Do.]	17,	20,	clxiv.
Ocean	15,	18,	clii.
Westminster	13,	19,	cliii.
Severn	15,	18,	cliv.
Do.]	16,	19,	*—
Avon	14,	17,	—
Do.]	17,	20,	clxii.
Chanticleer	15,	20,	clv.
Southampton	17,	21,	—
Cambria	17,	20,	clvi.
Jupiter	18,	22,	—
Indus	19,	22,	clvii.
Frances Walker	18,	22,	clviii.
Sultana	18,	21,	clix.
Dee	18,	22,	—
Iberia	18,	21,	clx.
Margaret Evans	18,	20,	clxi.
William Money	18,	21,	—
Ripon	20,	22,	—
Coldstream	18,	21,	clxiv.

On the 18th April, at 3 pm. a very remarkable Cyclone passed over Dublin, of which the following account has been published by Dr. Lloyd, President of the Royal Irish Academy, which he has most kindly communicated to me for the purposes of this work.

“Having watched attentively the progress of the late storm from a favourable position, and collected some facts relative to it from the records of the Observatory, and from other sources, I avail myself of the present opportunity to lay them before the Academy. The phenomena were of a nature so unusual (I may say unexampled) in these climates, that it is desirable that some notice of them, however imperfect, should be placed on record; and the present summary of facts is offered, chiefly in the hope that it may serve as a nucleus to a more complete one. I shall limit myself, mainly, to those which have an immediate scientific bearing.

"The morning of the 18th was fine in Dublin, with bright sunshine, light cirrous clouds being scattered loosely over the sky; at ten o'clock these became diffused, and the sky was evenly, but lightly, overcast.

"From the tracings of the self-registering anemometer, erected in Trinity College, it appears that on the 17th, and during the morning of the 18th, the wind blew gently from the South-west. Towards noon, on the latter day, it gradually veered to the South, and continued at that point until the arrival of the storm. This veering of the wind, however, appears to have been confined to the lower current; the direction of the upper current, as estimated by the motion of the clouds, appeared to be nearly South-west.

"The first indications of the approach of the storm were observed soon after three o'clock. Massive *cumuli* were seen in the Western and South-western portion of the horizon. These became denser as they approached, until they formed a mass of an ash-grey colour, projected on a sky of a paler tint, while the rugged outliers from the mass, of the peculiar form which indicates a high degree of electrical tension, showed plainly that a storm was approaching. About half-past three o'clock it burst forth. The flashes of lightning (generally forked) succeeded one another with rapidity, and at length with the roar of the thunder seemed continuous. Some persons who observed the phenomena from a distance were able to distinguish the two strata of oppositely electrical clouds, and to see the electrical discharges passing between them.

"Hitherto the wind was light, and there was that peculiar closeness in the air which is the result of high temperature and excessive humidity. Shortly before four o'clock the rain commenced; this was followed almost immediately by discharges of hail, and at four P.M. the terrific tornado, which was the grand and peculiar feature of the storm, reached us.

"This gale, which appears to have been a true whirlwind, first sprung up from the South-east, driving the hail before it impetuously. It then suddenly, and apparently in an instant, shifted to the point of the compass diametrically opposite, and blew with increased violence from the North-west. The noise about this time of the shifting of the wind was terrific, and arose (as is conjectured respecting similar tropical phenomena) from the confused conflict of hail in the air. The size of the hailstones, as well as the vehemence of the gale, appeared to be greater during the second phase of the storm than the first. These masses, many of which were as large as a pigeon's egg, were formed of a nucleus of snow or sleet, surrounded by transparent ice, and this again was succeeded by an opaque white layer, followed by a second coating of ice. In some of them I counted five alternations.

"In less than ten minutes the tornado had passed. The wind returned to a gentle breeze from the South-west, the clouds dispersed, and the weather became beautiful. All the phenomena,—the direction of the gale perpendicular to that in which the storm-cloud was advancing, and the sudden reversal of that direction,—seem to prove that it was a tornado, whose centre passed directly over the place of observation. It is evident, on comparing the direction of the wind when the whirl first reached this part of the town, with that of the progressive motion of the vortex itself, that its rotatory motion was *retrogade*, or in an opposite direction to that of the hands of a watch with its face upward. It is deserving of notice also, that in the northern hemisphere this is the invariable direction of the *cyclones*, or great revolving storms, to which the attention of meteorologists has been directed by Col. Reid and Mr. Redfield. The late storm was, however, different from a cyclone, both in the dimensions of the vertex and the causes from which it originated. The horizontal section of the cyclone where it meets the earth is often 500 miles in diameter; and the vortex is supposed to be the effect of two crossing currents of air, which generate a movement of rotation. In the tornado (to which species the late storm belonged) the vortex is of much smaller dimensions, and is produced by rapidly ascending currents of air, caused by the heating of a limited portion of the earth's surface under the action of the sun's rays. In the temperate zones, accordingly, it is never produced in winter.

"The evidence relating to the direction of the gale, and its changes, as it passed over the College Park, is very complete and satisfactory. In the park, and garden adjoining, nineteen trees were rooted up and prostrated; eleven of them being trees of large size. Of these ten have fallen from the South-east, or under the action of the first half of the gale, and nine from the North-west. Their bearings have been accurately taken, and the general result is, that the mean direction of the South-east gale, as indicated by that of the trees, is S 56''' E, and that of the North-west gale N 53''' W. I believe that these results are even more accurate than those furnished by the anemometer; and they prove that in this locality the direction of the wind was exactly reversed, and, therefore, that the centre of the vortex passed over the College.

"A remarkable circumstance connected with the direction of the fallen trees is their great uniformity, the individual directions seldom differing more than 10''' from the mean. This is an indirect evidence of the great violence of the gale; and it proves, moreover, that the transition from the South-east to the North-west was immediate. There is greater regularity in the direction of the trees fallen from the North-west than in those which have been blown down from the opposite quarter. This may have arisen partly from the greater violence of the gale in the former direction; but it is partly also due to the circumstance that the trees which fell from the North-west are generally larger and in a less inclined portion of the ground. It may be mentioned also, that the trees which fell from the North-west generally lie to the Southward of the others; there are, however, two large trees in the garden lying *side by side*, but in directions diametrically *opposed*.

"It has been stated that in the College Park the shifting of the wind amounted to 180'''; and it has been inferred that the centre of the vortex passed over that spot. From what has been said as to the nature of the phenomenon, it will follow that in other localities, over which the vortex did not pass centrally, the wind must have shifted through different points of the compass, and through angles smaller in proportion to their distances from the centre. Thus, on the Southern-side of the line described by the centre of the vortex, the change of the wind should be from *South to West*, and on the Northern side of the same line from *East to North*. We are not yet in possession of facts which bear upon this point; but from the limited dimensions of the vortex, and the consequent smallness of the distance necessary to produce such a variation, it is probable that evidence bearing upon it may be obtained. I shall only observe that, in seeking and comparing such evidence, care must be taken not to confound *eddies* arising from local obstructions with the general direction of the current.

"It will be seen that the barometric fluctuation is small. It is stated, however, that a sudden and considerable fall of the barometer took place shortly before the storm. From the observations given below, at 1 and 4 pm. it will be seen that the barometric equilibrium, if so disturbed, was soon restored.

The fall of rain and melted hail in Trinity College during the storm amounted to 0·596 of an inch; but it is probable that the hail was driven out of the receiver of the guage by the wind.

"The hours of observation at the Magnetical Observatory are 7 am., 10, 1 pm., 4, 7, 10. The observations of the barometer, and of the dry and wet thermometers, made at these hours on the day of the storm, are the following:—

Hour.	Barometer.	Dry Therm.	Wet. Therm.
7 A. M.	29.944	49.5	47.4
10	29.952	54.7	50.5
1 P. M.	29.964	58.6	52.0
4	29.930	56.0	52.3
7	29.944	52.6	52.0
10	29.936	51.0	49.6

"I have collected from the newspapers and other sources such information as I could obtain respecting the area of the city visited by the gale, but it is yet incomplete. It appears, however, that the diameter of the vortex was not very different from the length of the city from North to South; the gale having been limited by the Circular-road in these two directions. Hail fell, however, abundantly beyond the limits of the gale. Thus, at the gardens of the Royal Dublin Society, at Glasnevin, the damage done by the hail was very great; but it was limited to the roofs of the houses, the hail having fallen perpendicularly. The amount of the rain and melted hail registered there was 1·7 inches in 35 minutes.

"Further information is wanting also to enable us to determine exactly the progressive movement of the centre of the vortex. We are informed by the newspapers that a storm similar to that which visited Dublin, although not so severe, took place at Mullingar, about an hour and half previously. If this be the same storm, the direction of the progressive movement must have been nearly from West to East, and its velocity about thirty miles an hour. This direction accords with that given by the observed limits of the storm on the Northern and Southern sides of the city; but it seems to have been modified, at the surface of the earth, by the lower current. The velocity of the rotatory movement was, of course, vastly greater than that of the progressive; but we have no direct measure of its amount.

"The damage done in Dublin has been principally in the destruction of glass caused by the hail; but many chimneys have been thrown down, and many roofs dismantled, by the gale. The estimated amount of the loss sustained, as ascertained by the Metropolitan Police, is £27,800. Many houses were struck by lightning; but, happily, there was no loss of life from that cause.

"There seems to have been a disturbance of electrical equilibrium, accompanied by rain, in many remote parts of Ireland on the same day."

It will be seen that in Scotland and England coincidently with the passage of this Storm, there occurred a slight fall of the Barometer on the 18th—19th, succeeded by one much more rapid, to the extent of ,62 of an inch during the 19th—20th.

I imagine these to be produced by distinct Storms; of the nature of the former Storm *K. the researches of Dr. Lloyd leave no doubt, and I shall presently proceed to show that the latter Storm K. was also Rotatory and Progressive.

I imagine Storm *K. to have been the same which was experienced on the 16th by the Avon to the Northward of the Azores, and the Severn to the South-westward of those Islands. The former vessel was evidently in the right-hand hemisphere of a Cyclone travelling from SW to NE, which probably passed to the Northward of the Bermudas about Noon of the 13th, at which time these Islands* were visited by a constant and heavy rain and squalls and strong gales at WSW, W by S, & WNW. The fall of the Barometer was trifling however.

The Northumberland to the Northward of the Bermudas had the wind at ESE, S, and W, and the Barometer falling from 30.00 to 29.15, but I think this must have been the second of the two Storms included in this Section, and that as it travelled along a higher parallel † of Latitude than the first, it moved

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* See Log of the Clyde.

† It will doubtless have struck the reader that Cyclones travelling from West to East along one Parallel of Latitude, as Storm *A*. move more slowly than those travelling from South to North, along a meridian of Longitude.

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* These observations represent the extremes of daily fluctuation, unless otherwise stated, being taken from an early hour of the morning until late at night.

	Day.	Time.	Barometer.	Wind.	Force.	Weather.
	18*th*.	6	29,85	W	3	B c v
Storm *K**.		10		SSW	3	b c v
		1		..	3	b c g v
		6	,92	SW	4	b c v
	19*th*.	6	29,87	..	4	o m
		9		..	4	o r m
		1		..	4	o d r m
		6		..	5	o r f
		Night	,75			Rainy.
Storm *K*.	20*th*.	6	,60	..	6	b c v
		Noon		..	6	o m p d
		6		..	6	o m p d
		Night	,48			Fine.
	Sun. 21*st*.	6	,30	WNW		b c v
		1			3	b c u g m
		6			3	b c u m
		Night	,53		2	Clear.
	22*nd*.	6	,70	N	4	b c v
		Noon		..	2	b c v

more slowly; indeed the rate at which Dr. Lloyd's Cyclone, Storm **K*. moved, surpassed even Storm *C*.

From this cause, and from the want of Logs for this portion of the month of April, I regret that the positions of the centre of this Storm on the respective days are more conjectural than of any other Storm I have met with. The following assumed route may however be taken as the basis of future inquiry, the positions being consistent with each other, and with the authorities from which they are deduced.

On the 14th in Lat. 38.00 Long. 50,00 to the Westward of the Westminster, as at 3 pm. it overtook that vessel, which as will be noticed farther on from the veering of the wind must have been in its right-hand hemisphere.

On the 15th in Lat. 45.00 Long. 43.00 being then to the Westward of the Avon and of the Dolphin, and to the Northward of the Westminster.

On the 16th in Lat. 49.00 Long. 31.00 being to the Northward and Eastward of the Dolphin, which would be near the Storm's-eye at Midnight of the 15th, as the wind veered from S to W: and to the Northward of the Avon, with which vessel the wind veered from SE to SSE, S, SW, and W, and as she was moving in advance of the Storm, she experienced it longer than did the Dolphin, which was bound in the contrary direction, and was set also 13 miles to the Northward of her supposed position.

Off the Azores the Severn which was bound to the Southwest, and which was on the Southern-edge of this Storm, had a considerable swell from the Westward on the afternoon of the 16th, veering to NW in the night and towards the morning of the 17th, but she had only moderate breezes at W byS. The Westminster being on a course North-eastward, and more nearly parallel to the track of this Storm had the wind nearly half round the compass from NE to E, ESE, SE, S, Sby W, SW, SW by W, and WSW. Her Barometer appears to have been affected but slightly, partly from being so far from the Storm's-eye, and partly in some measure from being so near the Tropics.*

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* This is a good instance of *the Variables*; with only moderate breezes but with much heavy rain, the wind changed in a manner that at first might be thought odd but which is readily explained by reference to the Storm-card. I cannot but think that on the edge of the Variables as soon as vessels begin to lose the trade-wind, their Masters might very frequently escape much delay and loss of valuable time by consulting more frequently their Barometers, and comparing their fluctuations

I had entered the Log of the America[*] during the 14th and 15th in Storm *I.* but on comparing it with those already quoted, and with the Southampton and Cambria, I think it ought to have been included in the present Section as probably the centre of it passed at no great distance to the South-eastward of her during the 15th. The Southampton had pleasant weather during the 17th, as at this time she was running through the Storm's-eye and had got behind it; at 6 am. of the 18th she was encountered by Storm *K.* On the 17th the Cambria also must have been I think near the Storm's-eye as she had the wind veering from SSW to SW and W, I would therefore place the centre at Noon of the 17th, at Lat. 51.00 Long. 20.00.

Strange and improbable, nay, absurd and fanciful, as may be deemed the explanation which I propose to offer as the solution of the phenomena presented by this very remarkable Cyclone, I think that this improbability will be much diminished if we compare the amount of information we now possess, with the state of ignorance which prevailed on this subject forty, twenty, or even ten years ago. What Dr. Lloyd's Cyclone was to Dublin such were the Tornadoes of the West, and the Typhoons of the East Indies. Awful ministers of destruction, produced by some mysterious and inexplicable convulsion of nature, and sent as by the avenging hand of an angry Providence, equally beyond our foreknowledge, and above our means of escape or resistance, they seemed to offer no alternative. Blind submission to an overwhelming danger and trust in the mercy of an Almighty hand was the sole resource of the luckless Mariner.

Within the Tropics where the force of Cyclones is most to be apprehended and the probability of encountering them is the greatest, it would seem as though the goodness of the Almighty

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with the veering of the wind, however slight those changes might be, however moderate its force, and however small its effect on the course or position of their ship. If the proper use of the Cyclonic Theory enables a Commander to steer his ship out of danger when she is too near the centre of a Storm, why may not the correct application of the same principle enable him to bring his ship nearer the edge of a Storm, if he be too far from it? The station of "calms and light baffling winds" is the boundary between two Storms, in the rear of one, and in advance, or on the edge, of another; and if a Commander under such circumstances after standing on for a given time finds a fall however slight in his Barometer, and then merely because he is a little off his proper course tacks about, he appears to me to do exactly what is best calculated to deprive him of any chance he may possess of obtaining a stronger and more favourable breeze.

[*] See Page cxxxix.

had supplied the means of escape through the very source of their apparently most formidable peculiarity. The steadiness with which they advance, and the well defined line of track along which they move, provides a warning of the coming danger, and an indication of the mode of evading it. Created doubtless for the beneficient means of purifying and clearing the otherwise stagnant atmosphere, though carrying on their wings destruction to the few who are unable to avoid them, they bring life and health to the many who hail with joy and gladness the rain which refreshes the parched soil, and the cool breeze which fans and reanimates exhausted Nature. Certainly as the Signalman perceives through its distant murmur the approach of an unexpected Engine, and by the hardly developed line of thin white curling Steam announces the direction whence it is coming, that they whose lives depend on his care and promptitude may put themselves beyond danger, so surely does the skilful and wary* Commander, warned by the scud gathering in the horizon, and the moaning of the distant swell, and the sinking of the Mercury in his trusty barometer, prepare for the inevitable Storm; he makes his ship ready for the tempest should it be approaching him, he steers her away from it should it be crossing his path, or if it be in advance of him, he prudently waits until it has passed by, foreseeing the precise period at which he may continue his course in safety, possibly availing himself of the very wind to waft him towards his haven, which but for his forethought might have brought destruction to him and to those committed to his charge.

But to return from this digression, somewhat tedious I fear, into which I have been lead by the contrast between the steadiness and regularity of the advance of Tropical Cyclones, and the uncertainty of the Gales of our own Latitudes, I proceed to offer the explanation of the peculiar and very extraordinary phenomena attending the Cyclone which has been so fully and ably described by Dr. Lloyd.

Assuming then the positions for the preceding days, from the

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* Unlike some Commanders who in defiance of all the indications of the elements and all the warning of science and experience steam into the middle of a typhoon, and then lay to with their head in such a position that little short of a miracle saves them from foundering. It were invidious to select instances in which the utmost risk has been wilfully incurred, but if one man is to be broke for getting aground on a coral reef, I do not see the justice of overlooking another, who is run down by a Typhoon which he might have avoided but would not.

13th to the 17th, to have been as above stated, it appears that on the 13th the inclination* of this Storm was from NNW to SSE whilst passing to Northward of the Bermudas.

On the 15th at 4 pm. it blew a heavy gale at SSE to the Avon, but the Dolphin to the Northward of her had not yet come within its influence; the inclination of the Storm was therefore from SW to NE at 4 pm. of the 15th.

It will be seen therefore that in addition to being Rotatory and Progressive, this Storm had acquired a third property, and was wheeling on a moving axis, or to borrow a simile from our earlier days, as a child's hoop when trundled along the ground with an unequally directed impulse acquires an undulating movement before it falls to the ground, so do Cyclones, and this one in particular, undulate as they are carried along the firmament of heaven, their upward tendency being increased by the inclined axis on which they move.

Now every one knows what a waterspout at sea is, that it is an inverted cone of water, and though rarely met with, for few people have the good fortune to witness so remarkable a phenomenon, yet that it travels at a certain steady pace, being the sea water carried upwards by the Rotatory force of the atmosphere. Occasionally on land the same phenomenon is observed when leaves, straws, and similar light substances are seen to be carried upwards by a rotatory wind; these assume a circular form and are moved along the surface of the ground, nay, there are well attested instances of substances even more weighty and bulky than leaves and straws being thus acted upon, so well attested and so well known that it is unnecessary to adduce them. If then the water at sea, and leaves, &c. on shore, have borne visible witness to the tendency of Rotatory winds to acquire a conical form, and to exercise their force in an area analagous to the nature of an inverted cone, that is to say in an area increasing in diameter the higher it is above the earth, what is there absurd or fanciful in the hypothesis that the Cyclone which passed over Dublin on the 18th was a CONIC WIND-SPOUT, the upper portion of which was of very extensive diameter at a high elevation, and the lower limited to the narrow surface of country affected in the manner above related by Dr. Lloyd.

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* Any one who wishes to follow this reasoning has merely to take a circular card and run a long pin through the centre, and a shorter one through the edge, and then move the card along the track above indicated. In order to scratch the chart, the card must be inclined, for if it be kept flat the short pin will not touch the chart; the inclination of the card will therefore be a line at right angles to the direction of the greatest pressure of the wind.

From the mouth of the Shannon on the West a valley extends across Ireland to Dublin on the East. Now a Rotatory Storm travelling along that valley at a high elevation would naturally draw along with it the lower atmosphere lying in that valley, and I see nothing more improbable in this hypothesis and explanation, than appeared in the Rotatory Theory of Tornadoes when suggested forty years ago, or even than would appear now to any scientific person, whose attention had never been directed to Atmospheric Phenomena. The positions of the Centre above assumed from day to day, from the 13th to the 16th inclusive, if carried on at a similar rate of travelling would bring the Centre of the Storm during the forenoon of the 17th over the Cambria, to the Northward of her, (i.e. in Lat. 50.00 Long. 20 00 she had the wind at SW with drizzling rain, shifting to NW and clear,*) which agrees precisely with the passage of such a Storm as I have above described, and lest it might be thought too great an assumption to lay so much stress on an argument drawn from the Log of a single vessel, I may venture to assert that of the many statements advanced by me in this work on no one do I rely more entirely than on this, viz. that the various shiftings of the wind experienced by the Cambria on the 17th were caused by the passage of a Rotatory Storm to the Northward of her, and that this was the Storm *K which was so fully †developed in Dublin on the afternoon of the 18th.

I therefore assign its position for Noon of the 17th to Lat. 51.00 Long. 20.00, and of the 18th to Lat. 53.00 Long. 8.00.

The natural direction of this Cyclone, after leaving Dublin, would be over the Isle of Man and across the Borders of Scotland and England. I have not received any information to throw light on this point except from Dumfrieshire where the wind which had been West the previous day, under the influence of the rear quadrant of Storm *I.* which had travelled Northward, veered to‡ South-west & South-east accompanied by "showers," and "rain." This South-westerly direction of the wind previous to the arrival of the Cyclone was also noticed at Dublin, (see Page 70) and would naturally be produced by the first breezes of a gale coming from that quarter, and the subsequent veering to SE would be consistent with the track of a Storm which had passed from Dublin across the Isle of Man and the North of England; it is remarkable that the wind on this day in Dumfrieshire also as well as in Dublin should have changed to SE, the point from which the first half of the hurricane prevailed, if there were not some connection between these coincidences.

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* See Page cxlvi, Storm I.

† I would add however that the Iberia off Ushant, at 10 a.m. of the 18th, had the wind veering from NW by W, to WNW, and W, with a pause in the rise of the Barometer, and in the evening the swell which at Noon had been from the NW came round to W. Similar indications are supplied by some other vessels, but as they have no Barometrical details I do not enter into them.

‡ On the approach of Tropical Cyclones it will generally be found that the wind

The other Barometrical observations relative to this day are not inconsistent with this supposition though they make no mention of any phenomena at all to be compared with those recorded by Dr. Lloyd. The natural direction of this Cyclone would be from England towards the Sound, or the Coast of Norway, and at Copenhagen on the 19th the wind changed to NW. This circumstance however I merely point out for the observation of any of the scientific gentlemen on the Continent who may have the inclination to carry on this investigation to a further point.

Probable Track of Centre of Storm, and position on the following days.

April 13th, Noon.	North of the Bermudas.	
14th,	Lat. 38	Long. 50
15th,	45	43
16th,	49	31
17th,	51	20
18th,	53	8
19th,	Coast of Norway.	

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veers to the point of the compass from which the Storm is coming. Whenever therefore the Barometer after settled weather begins to fall suddenly and rapidly attention should be given to the indication thus furnished of the quarter whence danger is to be anticipated.

STORM *K.*

I will now proceed to trace Storm K, which in a Meteorological point of view is one of the most interesting in this series; for more especially than any other is it self-demonstrative as being Rotatory and Progressive, whatever part of its course we may select for our consideration. Let us take for instance its passage over Dorchester; here we have the Barometer falling steadily during the 19th—20th, with the wind at SW, the Storm's-eye being to the Westward; on the 21st the Barometer was rising, the Storm's-eye being to the Northward and Eastward, and the wind at WNW, drawing to North on the 22nd, as the Storm had then travelled to the Eastward.

Or if we take the Scilly Islands, the extreme Westerly point of observation of these Islands, we find the Barometer in like manner falling steadily, with the wind at SW, at its lowest point the wind changed to WSW, and as it rose, to NNW, NW by N, and NNE.

Or if we go to Sumburgh Head, the extreme Northerly point of observation, we find that during the 19th, whilst the Barometer fell, a strong Southerly gale prevailed, but on the 20th whilst it rose the wind was from the NE, whereas in the South of England it was from the NW.

At Flamborough Head on the Eastern Coast of England the Storm set in from the SSW, veering to W, and then to WNW, NNW, and N.

There is little doubt therefore *even if our actual observations were limited to any one station that this Storm was Cyclonic,* and I have much satisfaction in being able to carry my proofs backward to the Continent of America, whence similar self-evident proofs of its Rotatory nature have been supplied to me. There is also equally clear proof during its passage across the Atlantic.

This Storm attracted some attention in the United States having been attended by an unusually heavy fall of snow. In a paragraph from *The Boston Traveller,* communicated to me by Mr. Redfield, it is mentioned

> That on the 14th in the Northern part of the United States, from St. Louis through the States of New York, Vermont, Maine, as far as New Brunswiek, a distance of 1000 miles, and perhaps much further, the average fall of snow was not less than a foot.

This Storm produced a fall of snow at Toronto in the morning of the 13th, at 5 a.m., having being preceded by rain and wind at SW, with a falling Barometer; as soon as it began to rise the wind veered to W and WNW.

At New York, it was Southerly and South-easterly. At Noon the wind changed to SW, and at 2 p.m. the Barometer began to rise; the axis of the Storm was therefore parellel to New York at this time, moving from South of West to North of East, and we may place the centre in Lat. 45.00 Long. 75.00

The Northumberland to the Eastward of New York, had fine weather till Noon of the 13th, but her Barometer was falling fast, and the wind which previously had been from the Eastward veered to ESE, S, and W; at 3 pm. she had a squall from NW, which is about the time at which the Storm would be passing to the Northward of her. She continued to have the wind from W and WNW, and though the Barometer appears to have been rising, she had much heavier weather than whilst it was falling. This however is accounted for by the fact that being near her port she was lying to, and consequently remained for several hours nearer the Storm and more within its influence than would have been the case had she had an open sea, and been able to run to the Westward away from the Storm.

As far South as the Bermudas the Clyde continued to have the wind from the Westward for several days after the 13th, though veering to WSW and WNW, but the Barometer rose steadily till the 15th, which observations are quite consistent with the supposition that a Storm was passing over the Northern part of the United States. It will be observed that the Barometer of the Clyde had risen during the night of the 13th until 4 am. of the 14th, that it fell again until 10 am. and then rose again. It was about this time that the Storm's-eye was passing over Prince Edward's Island.

It is now time to draw the attention of the reader to the contrast presented by the observations of Dr. Kelly, at Charlotte Town, Prince Edward's Island, and of Capt. Shortland, of H. M. S. Columbia, at Halifax.

At both of these places which lie nearly due North & South of each other at a distance of 100 miles, but on the opposite sides of the great promontory of Nova Scotia, the Storm commenced on the evening of the 13th, from the SE and S, increasing to a strong gale (9 to 10) towards Noon of the 14th. The wind up to this time appears to have veered but little* although the Barometer was falling rapidly, *i. e.* from 29,67 to 28,86 at the former place, and from 30,15 to 29,26 at the latter. This steady direction of the increasing Storm is readily accounted for by the circumstance that it was bearing down directly upon these places, and it was not until Noon of the 14th when the Barometer began to rise, that any important change in the direction of the wind took place. But whereas at Halifax the wind veered from ESE to S by W, SSW, SW, W by S, W, and WNW, at Charlotte Town it veered from SE to NE, N, and NW; at Halifax the change commenced at 9 a.m.; at Charlotte Town, which lay about 2 degrees later along the line of the Storm's Track, not until after 10 p.m. of that day, and though on the afternoon of the 15th the wind prevailed from the N and NW at both of these places, which on the 13th had been at SE, yet it came round the compass in exactly contrary directions.

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* This property of Cyclones is one most important and practically useful to

If we now take these two well ascertained positions at Noon of the 14th, and of the 20th, and set out the probable daily progress of a Storm at equal intermediate distances, we shall find these assumed positions consistent with the Logs of the vessels which lay along this line of track, though as it was to the Northward of the course of vessels trading between the two great continents, they were all in its right-hand hemisphere.

Nevertheless, from the want of Barometrical observations to test the correctness of this track, I have been obliged to relinquish the attempt to fix these positions with that degree of certainty which I could wish, and which I think I have attained in regard to the previous portion of this period. Not anticipating such an extension of my inquiries in the Summer of 1850, I omitted to copy the Logs of the London and New York Liners, which sailed from New York after the Wellington; The Hermann was in New York harbour during the middle of April; and but for the assistance of my friend Mr. Lequesne, who ob-

Mariners as it enables them to judge their position in reference to the axis of the approaching Storm. In the case of the PEKIN's Typhoon on the 1st of October 1851, to the South of Hong Kong, though the Barometer fell from 29,50 at 1 pm. to 29,00 at 9 pm. and though the wind increased from a topgallant-sail breeze to a furious hurricane, nevertheless it continued at NE. I am able to give the copy of an extract of the Pekin's log which was sent home by Capt. Baker, and communicated to me by Capt. Guthrie in the most kind manner with the hope that it might add to the materials of this work. I have placed it in Chapter II. as it seemed more convenient to introduce it in the portion of the work to which it more peculiarly belonged.

tained for me copies of the Logs of the Dolphin and Ocean, and an Abstract of the Rollo, the central part of the North Atlantic would have been limited to the Cunard Liners and to the invaluable West India R.M. Steamers. But with such materials as I have at hand, I proceed to connect the positions from Noon to Noon, shewing at least that they are consistent with the vessels from which they are taken, and with each other.

The America had the Storm to the Eastward of Cape Race, veering from SW, to W by S, and WNW. From her position she would be in its right-hand hemisphere, and the veering of the wind is conformable to this principle, as laid down at Page 2. I conceive the Storm's centre at Noon of the 16th to have been to the Northward of the America, i. e. in Lat. 50.00, Long. 50.00, and on the preceding day, the 15th, in Lat. 49.00. Long. 57.00.

The next Vessels whose Barometers supply any indication of the Storm's passage are the Dolphin, which was to the Eastward of the America, and the Severn and Westminster which were to the Southward of the Dolphin.

From the 16th to the 18th the Severn was to Southward of the Storm, having the wind at W by S, and at WSW. On the 16th, she had a considerable swell from the Westward, which changed* on the 17th to NW, causing the ship to roll very heavily: but being nearly 19 degrees to Southward of the Storm's axis, she had only fresh breezes, and her Barometer remained at 29,94 to 29,90 and 29,93, until Noon of the 17th, when it began to rise slowly but steadily to 30,09 at Noon of the 19th.

The Westminster on the 17th and 18th had her Barometer at the lowest at WSW, and SW; on the 18th, being then nearest the assumed centre, viz. Lat. 54.00 Long. 30.00, she had heavy squalls; on the 19th at Noon, the Storm having then gone ahead of her, she had the wind at WNW.

The position at Noon of the 17th, viz. Lat. 52.00. Long. 40.00, was about 4 degrees to the Northward of the Dolphin.

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* This change of the swell produced by a revolving Storm a 1000 miles from its centre, is exactly similar to what is observed in the smaller Cyclonic Typhoons of the Tropics, indicating precisely the direction in which the Storm is travelling.

Assuming all winds to be *Cyclonic*, I would suggest that once at least in every 24 hours, and oftener in unsettled weather there should be drawn in the Log-book a Storm-circle, showing the position of the ship, and the probable direction of the centre of the Storm within whose influence she is sailing. Such an entry would give very little trouble, and would frequently be of the greatest service.

This vessel, having narrowly escaped being run down during the night of the 15th—16th, by Storm *K, as soon as the weather moderated stood on NW, and at 2 a.m. of the 17th, was under all possible sail. No wonder then that as the Storm's eye approached her, that deceitful lull which without the warning of the Barometer so frequently has proved fatal to the unwary seaman, she was in a few hours reduced to a close-reefed maintop-sail, and obliged to lie to. Neither need we be surprised as she was on the port tack, having her head NNW, and the wind SSW, that before many hours the sea made a complete breach over her, carrying away her boats, and doing other damage. This state of affairs lasted until the morning of the 20th; but although I have given the continuation of her Log up to the morning of that day, I believe that the subsequent bad weather must have been caused by a Storm different from the present, but which does not come within the compass of this Memoir.

At 2 am. of the 18th, the Southampton had the wind shifting from N to S, at 6 she was under double-reefed topsails, at 8 the wind shifted suddenly to W blowing very hard. This is exactly consistent with the assumption that the Storm's-eye at Noon of this day was in Lat. 54.00 and Long. 30.00.

The Cambria also to the Eastward of the Southampton at 3 a.m. i. e. an hour later than her, had the wind inclining from W to SW, and at 9, also an hour later, had a shift to WNW in a very heavy squall. She had throughout this day strong gales and much lightning, which continued until night of the 19th, and on the morning of the 20th the wind drew to NW. This however for reasons already given in the Log of the Dolphin I conceive to have been owing perhaps to a subsequent Storm.

At 4 am. of the 19th the Frances Walker had the wind shifting to S, veering to SW, and at 3 pm. to WNW, and continuing in that quarter and at W until the morning of the 21st.

I now come to the Avon whose well-kept Log, like an Oasis in a desert, presents a refreshing aspect on which to rest, after toiling through barren and wearying details. Like the Frances Walker she was running parallel to the track of the Storm and was overtaken by it early in the morning of the 19th, at which time the wind veered to S, and the Barometer began to fall but still very slowly, from her great speed enabling her to keep considerably in advance of the Storm. For 12 hours from 8 pm. of the 20th, to 8 am. of the 21st, whilst running up Channel her Barometer remained nearly stationary; but at the latter hour as she had entered Southampton Dock, and ceased to keep up with the Storm, the Barometer rose before Midnight 00,30 of an inch, viz. from 29,46 to 29,75. In this case too we have the wind drawing round the compass from S to SSW, SW, WSW, with the glass falling, and at NW as soon as it began to rise.

We now come to a whole fleet of Steam Ships, no less than five in number, the Jupiter, Indus, Dee, Iberia, and Ripon. The Barometer of the Jupiter, at Noon of the 19th, coincides with the centre assumed for that day, as a line drawn at right angles to the track of the Storm would fall exactly upon Cadiz.

The Indus during the 19th—20th was nearly due South of the Storm standing towards it, with a Barometer falling slowly and wind at WNW, drawing to NW, and a long swell from W and afterwards from NW.

The Ripon which left Southampton on the 20th, had the wind at SW, W, WNW, and NW; the fluctuations of her Barometer during this day are irregular, but from Midnight and for 36 following hours it rose steadily.

The Iberia's Log is somewhat instructive as we find her set at Noon of the 20th, 31 miles* to Eastward of her reckoning. For the preceding 24 hours she had had a confused head sea up to 8 am. of the 20th, her course being SW by W, and then a heavy Westerly swell, the wind having veered from SW to SW by W, WSW, W, and NW by W, the Barometer falling steadily. In the Evening the swell changed to WNW, and the next day to NW, the Barometer again rising. These facts are consistent with the assumption that at Noon of the 20th the centre of the Storm was in Lat. 56.00 Long. 8.00.

I have now traced this Storm up to these Islands, and at Page 80 have shewn that here its Rotatory character was self-evident: it is therefore unnecessary to repeat these remarks; but I shall proceed to the Continent, where its nature is equally clear.

At Frankfort on the 20th and 21st, until Noon the Barometer fell, the wind being SW; on the 22nd the wind was N, and NW, and the Barometer rose.

At Flamborough Head during the 21st, the wind was at

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* This shows us how careful one ought to be in approaching land with a falling Barometer; had the Iberia left Southampton a few hours earlier, so as to have arrived off the Coast of Spain in the dark, she might possibly have been wrecked, and unavoidably too, for so serious an error in her reckoning as 15 miles in 12 hours could not have been for a moment anticipated with only strong breezes.

NNW and N, and the fall of the tide in Scarborough Harbour at 6 p.m. of that day was much lower there than the morning of that or of the following day; this phenomenon is readily explained by the facts, that the Centre of this Cyclone being to the Eastward, the hinder quadrants of it would prevent the tidal waters passing along the Eastern Coast of England, and probably cause them to accumulate at the entrance of the Straights of Dover and in Ramsgate Harbour. The position of the Storm's Centre for Noon of this day would therefore be the North Sea, in Lat. 56.00. Long. 5.00 East.

Probable Track of Centre of Storm, and position on the following days.

	Lat.	Long.
April 13th, Noon.	45	75
14th,	46	63
15th,	49	57
16th,	50	50
17th,	52	40
18th,	54	30
19th,	55	20
20th,	56	8
21st.	56	5 E

◆

SUMMARY.

STORMS *A*—*K*.

I have now gone through the whole of my observations given at Pages 6—9, and I have endeavoured to arrange carefully and to state fairly the facts relative to the successive fluctuations of the Barometer, and the various changes of the wind and weather, with the view to avoid the prolixity of too much detail on the one hand, and on the other to keep clear of the imputation of suppressing or withholding facts which might appear to militate against the conclusions which I desired to establish, a Synopsis of which I here present to the reader for greater facility of comparison.

STORM *A*.

March 28th—31st

March 24th,	North of Toronto, Canada,	Lat. 48	Long. 80W
25th,	North of Charlotte Town, Prince Edward's Island,	50	63
26th,		51	50
27th,		52	41
28th,		52	32
29th,		52	22
30th, 7 pm.		52	16
31st, 3 pm.	Brussels.		
April 1st—2nd,	Over Hanover and the Hartz Mountains,		
3rd,	Passing up the Gulf of Bothnia between Copenhagen and Memel.		

STORM *B*,

March 31st—April 3rd.

March 28th,	Noon.	Lat. 44	Long. 79
29th,		48	62
30th,		52	45
31st,		52.	33
April 1st,	3 pm.	50	15
2nd,		53	14
3rd,		Coast of Norway.	

STORM *C.*

April 3rd—5th.

April 1st. Noon.		Lat. 35	Long. 54
2nd,		40	40
3rd,		48	27
4th,		54	2
5th,		Over the Baltic.	

STORM *D.*

April 5th—6th.

April 5th. Noon.		NW of the Azores.	
6th,		Lat. 49	Long. 25
7th,		59	10

STORM *E.*

April 6th—10th.

April 3rd, Noon,		Lat. 33	Long. 72
4th,		38	64
5th,		41	54
6th,		46	40
7th,		48	24
8th,		49	9
9th,		Over the North of Scotland	
10th,		57	5 E
11th,		Over the Baltic.	

STORM *F.*

April 10th—13th.

April 3rd—4th,		Over Gulf of Mexico.	
6th, Noon.		Lat. 35	Long. 73
7th,		44	63
8th,		47	50
9th,		48	37
10th,		48	25
11th,		50	5 E
12th,	Between Frankfort & Copenhagen	52	8
13th,		Over Russia.	

STORM *G.*

April 13th—14th.

April 7th—8th, Midnight,	Lat. 46	Long. 82
8th, Noon,	48	76
9th,	50	67
10th,	51	50
11th,	51	34
12th,	51	17
13th,	53	2
14th,	54	8 E

STORM *H.*

April 14th—15th.

April 10th, Noon,	Lat. 40	Long. 65
11th,	42	51
12th,	51	35
13th,	52	19
14th,	57	10

STORM *I.*

April 15th—18th.

April 12th, Noon.	Lat. 37	Long. 40
13th,	42	37
14th,	46	26
15th,	47	17
16th,	52	6
17th,	60	4

STORM *K.

April 18th—19th.

April 13th, Noon.	North of the Bermudas.	
14th,	Lat. 38	Long. 50
15th,	45	43
16th,	49	31
17th,	51	20
18th,	53	8
19th,	Coast of Norway.	

STORM *K.*

APRIL 19th.—22nd.

April 13th, Noon.	Lat. 45	Long. 75
14th,	46	63
15th,	49	57
16th,	50	50
17th,	52	40
18th,	54	30
19th,	55	20
20th,	56	8
21st.	56	5 E

To each of these Storms I have allotted one of the Charts which will be found at the end of the Volume marked *A.* to *K.* The scale to which they are drawn may be thought small, but I have generally found that a large sheet is very inconvenient for reference, and therefore have preferred the size selected which can be held open easily, though it required more care in arranging, to one which might have presented a less crowded appearance, but which would have been less readily compared with the letter-press of the Appendix. This smaller size has this advantage that the eye more quickly embraces the contents of the plate when they are condensed than when they are diffused over a wider space.

On the other hand it must be admitted certainly that in some portions of the plates the ships are crowded, and I have consequently, to avoid still greater confusion, been obliged to omit some of the ships altogether; these are however generally those least important.

At the end of these Charts will be found one on which all the above Tracks are shewn, and it will be seen that if a line be drawn from the Bermudas to Shetland, they will all lie within two other lines drawn parallel to this at ten degrees on either side of it, except those which came down the Valley of the St. Lawrence.

We may therefore consider this to be the general *Central Storm-Track of the Temperate Zone of the North Atlantic.*

I may add that the Charts explanatory of this Chapter are drawn to exactly double the scale of the Map on Mercator's Projection, in the series published by the Society for the Promotion of Useful Knowledge.

I must add that the credit of the accuracy with which the Charts are arranged and the positions of the ships laid down is due not to myself but to the friend whose name they bear, a scion, not an unworthy one I trust, of the sister services of our Army, which claim amongst their most distinguished members my instructor in Meteorology, the gallant and scientific Governor of Malta, the able Chairman of the Executive Commission of that great wonder of the age

THE CRYSTAL PALACE.

Supposing it to be established by the foregoing inquiry, *merely as a matter of great probability*, that all the extra-Tropical winds of the North Atlantic are Cyclonic, it would be very interesting to institute a similar investigation for a period of two or three months into the nature of the winds experienced over some other large portion of the globe in the Southern hemisphere, the great Southern Ocean for example, from the Cape of Good Hope to the shores of New Holland. Should it be the pleasure of our shipowners to promote such an inquiry, I should have much pleasure in undertaking it; it is evident however that to render it satisfactory and conclusive, a very general combination of individuals is requisite, and that very great facilities would be needed for collecting and copying logs of vessels in sufficient numbers to cover so large an extent of ocean, as there are no great Steam Companies *yet* in existence Eastward of the Cape, such as the Peninsular and Oriental or as the Royal Mail West Indian, to supply data on which to base a Series of Storms, nor am I aware that, except the Mauritius and the Light-house on Cape Lagullas, there are any fixed points of observation applicable to this purpose.

APPENDIX. Part I.

Authorities from which the foregoing Statements have been Compiled.

§ 1

Meteorological Observations taken in North America.

(These observations being continuous, and taken at fixed places on shore, they are inserted uninterruptedly.)

H. M. Magnetical Observatory, TORONTO, Canada West.
Lat. 43.39.4. N. Long. 79.21.5. W.
Elevation above Lake Ontario 108 feet.
From the British American Medical and Physical Journal.
Communicated by W. C. Redfield, Esq.

Times of Observation, 7 a. m. 3 p. m, 10 p. m.

Day.	Bar.	Ther.	Wind.	Rain.	Weather.
March 20th.	30.209	14.9	NbyW		Clear and very fine.
	176	27.5	Sby W		
	132	13.7	S		
21st.	057	18.9	NNW		Partially clear, fine.
	29.903	33.4	EbyN		
	797	25.2	Calm.		
22nd.	671	25.8	NEbyE		Mostly clouded all day.
	535	36.4	EbyS		
	464	34.0	NbyE		
23rd.	394	30.6	NWbyW		Day mostly clouded.
	342	38.6	WbyS		
	452	26.5	WbyN		Clear at night.
Sun. 24th.	417	28.8	NWbyW		Mostly clouded.
A	394	31.6	WbyS		Occasional showers of
	..	..	WbyS		snow.
25th.	495	20.0	W		Partially clear all day.
	500	30.1	NWbyN		
	536	21.6	WNW		
26th.	478	18.8	W		Mostly clear.
	431	33.6	SWbyW		Very fine.
	516	26.4	WNW		
27th.	505	22.8	WNW		Clouded. Portions of
	464	33.9	WbyS		snow during day.
	477	28	NW		
28th.	427	28.9	NWbyN		Clouded all day.
B	417	37.4	S		
	437	33.4	NWbyN		
29th.	523	33.8	WNW		Clouded. Occasional
	533	35.	S		heavy showers of
	..	..	W		snow.
30th.	707	28.2	W		Mostly clear, very
	722	40.7	SSE		fine day.
	745	31	SEbyE		

	Sun. 31st.	29.774	39.9	ESE		Partially clear. Fine
C		725	42.4	EbyS		day.
		..	..	SE		
	April 1st.	800	30.8	SE		Generally clear ;
		760	46.1	EbyS		a few light clouds
		734	36.	EbyN		dispersed.
	2nd.	757	35.2	ENE		Slight rain a.m.
		651	49.3	EbyN		clouded till 3.
		535	43.4	NEbyN		
	3rd.	391	42	NNE	2.35	Constant rain all day.
		155	48.9	ENE		
		014	44.6	ENE		
E	4th. 5 a.m.	28.856			0.51	
		864	41.9	EbyN		Densely clouded all
		29.001	45.6	WbyN		day. Slight rain till
		247	37.	NE		9 p.m.
	5th.	343	34.	NEbyN		Generally clouded ;
		410	39.7	E		faint aurora light
		433	37.3	NEbyN		from 9 p.m. to
	6th.	503	34.9	NbyE		1a.m. light clds. till 5;
F		494	42.1	SbyW		Clear ;
		506	36.8	NbyW		brilliant aurora.
	Sun. 7th.	547	42.	NW		Light clouds, dispersed;
		457	49.3	SSE		halo round the sun at 3.
G		..	..	W		
	8th.	502	30.9	NWbyW		Light clouds till 6.
		642	28.7	NWbyW		Clear. Faint aurora
		782	28.	NW		9 to 11.
	9th.	848	21.8	W		A few light clouds,
		761	34.5	SbyE		hazy, fine.
		726	30.2	SEbyE		
	10th.	741	32.5	E		A few light clouds,
		730	35.8	EbyN		hazy, fine.
		725	28.4	ENE		
	11th.	646	33.5	EbyN		Clouded till 7 p.m.
		618	32.4	E		snow 9 to 5;
		624	25.9	N		clear.
	12th.	602	27.8	NbE	0.135	Mostly clouded.
		353	38.8	E		
		180	38.2	E		Rain from 9 p.m. to
K	13th.	062	35.2	SW		4 a.m.; snow at 5 a.m.
		176	38.	W		clouded ; Halo round
		334	25.5	WNW		sun at 5 p.m.
	Sun. 14th.	452	28.1	WSW		Generally clouded.
		562	32.2	WbyN		
		..	..	WbyS		
	15th.	753	26.	WbyN		Clouded till 8 p.m.
		621	39.5	SbyW		
		718	30.2	NW		

BLOOMINGDALE Asylum for the Insane.
7 miles NNE of the City Hall in New York.
Lat. 40.48.45 N. Long. 75.3.56 W.
Elevation above High-water mark 165 feet.
Communicated by W. C. Redfield, Esq.

Times of Observation. Sunrise. 2 p. m. Sunset.

	Day.	Bar.	Th.	Wind.	Rain.	Weather.
	March 20th.	30.50	25	NW		Clear.
		50	32	NW		Clear.
		50	32	NW		Clear.
	21st.	44	21	NW		Clear.
		30	40	W		Clear.
		20	40	NW		Clear.
	22nd.	12	28	W		Clear.
		05	44	SW		Pleasant.
		00	46	SE		Cloudy.
	23rd.	29.85	35	NE	4	Snow.
		72	35	NE		Snow.
		72	34	NW		Cloudy.
	Sun. 24th.	90	27	NW		Clear.
		92	37	NW		Squally.
		92	36	NW		Squally.
	25th.	92	24	NW		Clear.
		92	35	NW		Squally.
A.		92	33	NW		Squally.
	26th.	94	25	NW		Clear.
		90	38	W		Clear.
		90	38	W		Clear.
	27th.	30.00	33	NW		Cloudy & light snow.
		30.00	35	NW		Cloudy.
		29.90	34	NW		Cloudy.
	28th.	80	29	NW	3	Snow.
		77	36	NW		Snow.
B.		77	35	NW		Pleasant.
	29th.	30.00	27	W		Clear.
		00	45	W		Cloudy.
		00	42	NW		Cloudy.
	30th.	20	31	NW		Clear.
		20	48	NW		Clear.
		20	42	NW		Pleasant.
	Sun. 31st.	20	36	NE		Cloudy.
C.		12	47	E		Pleasant.
		12	46	N		Clear.

PROVIDENCE. State of Rhode Island, U. S.

Lat. 41.51 N. Long. 71.26 W.

Communicated by W. C. Redfield, Esq.

Taken at 6 a. m. 1 p. m. 10 p. m.

	Date.	Bar.	Extern Therm.	Wind. Dir.	Wind. Force.	Clouds. 0—10.	Rain in inches.	Weather.
C	April 1st.	29.99	34	NW.	1			Very fine.
		30.06	54	NW.	1			
		10	41	NW.	1			
	2nd.	10	38	SW.	1			Very fine.
		02	64	SW.	1			
		02	48	SW.	1	3		
	3rd.	29.93	49	SW.	2			Mild.
		80	66	SW.	2	9		Appearances of rain in the
		59	50	SE.	2	10		evening.
	4th.	20	50	NE.	2	R	1.90	Rain all day.
E		05	45	NE.	2	R		5 to 6 p. m. rain and snow.
		44	32	N.	3	Mt.		
	5th.	64	31	N.	1	Mt.	0.50	Air very raw, mist, and occa-
		75	36	NE.	2	10		sional snow.
		57	32	NE.	2	Sn.		10 p. m. Do. all night.
F	6th.	52	31	NE.	3	Sn.		a. m. Modt snow; 4 to 5 inches
		56	33	NE.	2	S.R		on the level, and occasional rain
		63	31	NW.	1	9		all day. Even. clouds broken;
								bright Aurora all night.
	Sun. 7th.	67	30	NW.	1			Very fine. Snow disappearing.
		68	48	NW.	2			
		71	39	NW.	1			Evening, Aurora again.
	8th.	69	37	SW.	2	4		Pleasant a. m.
G		60	57	SW.	3	10		
		68	35	NW.	3	6		Evening very blustering.
	9th.	80	25	NW.	2			Cold and uncomfortable.
		..	..	...				
		90	29	NW.	2			
	10th.	94	29	NW.	1			Very fine.
		87	43	NW.	2			
		92	32	NW.	1			
	11th.	96	29	NW.	2			Air raw.
		87	51	SE.	2			
		86	33	SE.	1			
	12th.	88	35	E.	2	Sn.	0.10	5 to 10 a. m. Moderate snow,
		88	44	SE.	2	10		melting as it fell.
		82	34	SE.	2	2		
	13th.	70	34	E.	1	5	0.45	Very changeable.
		45	44	E.	3	R.		1 to 4 p. m. Rain.
K		26	35	W.	2			4 to 5 p. m. Snow.
	Sun. 14th.	33	32	W.	3	5		Very windy.
		47	37	W.	3	8		p. m. Flurry of snow.
		55	30	W.	3			
	15th.	69	30	NW.	4			Very cold and blustering.
		75	38	NW.	4			
		86	32	NW.	2			

A. C.

R. Admiral Beaufort's Table of Explanatory Terms.
Adopted by the Admiralty.
(Referred to in the following page.)

FIGURES

To denote the Force of the Wind.

0 denotes Calm.
1 Light Air.
2 Light Breeze.
3 Gentle Breeze.
4 ModerateBreeze
5 Fresh Breeze.
6 Strong Breeze.
7 Moderate Gale.
8 Fresh Gale.
9 Strong Gale.
10 Whole Gale.
11 Storm.
12 Hurricane.

LETTERS TO DENOTE THE STATE OF THE WEATHER.

b—Blue sky.—Whether with clear or hazy atmosphere.
c—Cloudy.—*i. e.* Detached opening clouds.
d—Drizzling rain.
f—Fog $\underset{\bullet}{\text{f}}$ thick fog.
g—Gloomy dark weather.
h—Hail.
l—Lightning.
m—Misty or hazy.—So as to interrupt the view.
o—Overcast.—*i. e.* The whole sky covered with one impervious cloud.
p—Passing showers.
q—Squally.
r—Rain.—*i. e.* Continuous rain.
s—Snow.
t—Thunder.
u—Ugly threatening appearance in the weather.
v—Visibility of distant objects.—Whether the sky be cloudy or not.
w—Wet dew.
$\bullet$ Under any letter denotes an—Extraordinary degree.

By the combination of these letters, all the ordinary phenomena of the weather may be recorded with certainty and brevity.

EXAMPLES.

b c m Blue sky, with detached opening clouds, but hazy round the horizon.

g $\underset{\bullet}{\text{v}}$ Gloomy dark weather, but distant objects remarkably visible.

q $\underset{\bullet}{\text{p}}$ d l $\underset{\bullet}{\text{t}}$ Very hard squalls, and showers of drizzle, accompanied by lightning with very heavy thunder.

CHARLOTTE TOWN, Prince Edward's Island.

Lat. (about) 46.12. N. and Long, 63.12. W.
Kept by Wm. Kelly, M.D., R.N.
March and April, 1850.

Refer to preceding page
for explanation of the Force of the Wind & of the letters in the Weather column.
Times of Observation, 10 a. m. 3 p. m. 10 p. m.

	Time.	Bar.	Ther.	Force.	Dir.	Weather.
	Sat. 23.	29.52	27	2	NW.	B
		50	31	2	N.	B C
		33	25			
	Sun. 24.	28.90	27	4	NNW.	O S
		90	38	3	NW.	O S
		91	31			
	25.	86	32	4	SW.	O S
A		86	31	7	WSW.	O S
		86	28			
	26.	95	27	5	SW.	O P S
		29.03	32	5	SW.	O P S
		20	25			
	27.	39	32	4	NE.	O
		49	33	2	NE.	O P S
		58	27			
	28.	55	31	4	NE.	O
		50	31	4	NE.	O S
		28	28			
B	29.	05	29	5	NW.	O S
		07	34	3	NW.	O S
		16	33			
	30.	40	36	2	NW.	O P S
		53	37	2		O
		68	32			
	Sun. 31.	70	38	0		B
		72	41	2	N.	O
C		66	32			
	April 1.	78	24	5	N.	B
		78	31	5	N.	B
		88	25			
	2.	88	32	0		C
		87	41	1	Var.	B
		86	30			
	3.	76	40	2	S.	O
		61	43	2	SE.	B
		55	37			
	4.	53	28	4	N.	C
		49	30	3	NNE.	O
E		45	25			
	5.	49	28	5	NE.	C
		61	31	3	N.	B
		72	21			

(Charlotte Town, Prince Edward's Island *continued.*)

	April 6.	29,68	29	2	NE.	C
		58	31	2	NE.	O
		55	37			
	Sun. 7.	42	31	4	NE.	O P S D
F		42	33	6	NE.	O P D S
		44	26			
	8.	47	37	1	SW.	P S
		48	45	2	SE.	B C
		47	35			
	9.	30	40	2	SSW.	P S
G		21	39			O P D S
		22	25			
	10.	38	27	7	NW.	C P S
		56	26	7	NW.	O P S F
		69	25			
	11.	75	28	5	NNW.	B
		77	24	4	N.	B
		81	14			
	12.	77	27	1	NNW.	B
		79	31	0		B
		80	19			
	13.	77	34	0		O S M
		60	45	1	S	B C
		67	29			
	Sun. 14.	00	31	9	E.	
K		28.86	38	7	S.	B C
		89	32	6	SE.	
	15.	89	35	1	NE.	C
		29.00	34	4	N.	O P S
		13	29			
	16.	15	30	4	NW.	C
		15	33	5	NW.	P S
		17	32			
	17.	31	34	7	NW.	O
		40	38	5	NW.	O P S
		57	35			
	18.	78	36	3	N.	B
		83	34	3	N.	B
		97	26			

§ II. Storms *A. K.*

Logs of H. M. Ships in North America.

(Communicated by their Lordships the Commissioners of the Admiralty.)

H. M. Steam Sloop MOHAWK, on Lake Huron, Upper Canada.

Lat. 45.00 N Long. 85.00 W

For explanation of terms refer to Page vi. *of the Appendix.*

Time	Wind	Force	Weather	Time	Wind	Force	Weather
March 23rd.	NW	1	b c m	30th,	S	1	b c
	WNW	2	..		SW	..	..
	NW	5	s		W	2	..
	W	4	..		NW	..	..
	Calm	0	c		..	..	..
Sun.24th	Calm	0	b c		N	..	..
	W	2	o		Calm	0	o
	NW	4	s	31st,	Calm	0	b c
	..	5	q s		S	1	..
	..	6	..		SW	..	..
	..	2	c		W	2	c
25th,	NW	2	c		Calm	0	c
	..	3	b c		..	..	..
	..	4	..		..	..	..
	..	4	c	April 1st,	E	1	o
	NE	2	b c		SE	2	o
	E	1	..		S	2	o
	..	..	c		Calm	0	c
26th,	Calm	0	b c	2nd,	Calm	0	o
	W	3	..		..	0	d r
	NW	4	c		..		r
	Calm	0	c		SE	1	r
	..	..	..		SW	3	o
27th,	Calm	0	o		S	1	o
	..	..	s		Calm	0	c
	N	2	o		..	..	..
	NW	3	c	3rd,	Calm	0	b c m
	W	2	o		..	..	..
	Calm	0	o		S	1	o
28th,	Calm	0	o		SE	2	d
	W	1	c m		E	3	s
	NW	2	c		SE	2	o
	N	3	..		Calm	0	r
	..	..	s	4th,	Calm	0	r
	NW	2	s		E	2	r
29th,	NW	2	o		..	4	r
	S	1	o		Calm	0	r
	SW	..	..		..	0	c
	W	2	c	5th,	Calm	0	c
	NW	4	c		E	1	b c o
	N	..	..		EbyS	2	b c
	NW	3	b c		E	3	..
	Calm	0	o		Calm	0	..

(Log of Mohawk continued.)

	6th,	Calm	0	B C M			SE	2	O G
F		East	1	B C			SW	3	O
		..	3	..			S	3	O
		EbyS	3	B W			SE	2	O
		E	..	..		12th,	SE	1	B C
		Calm	0	B C	*K*		S	3	C
		..	..	..			SbyW	6	O
	Sun, 7th,	Calm	0	B C			SW	..	..
		..	..	C			S	4	D S
		NE	4	O			SW	4	O
		NW	..	..		13th,	SW	4	O
		..	6	Q S			W	5	O
		..	..	..			NW	6	S
		NW	8	..			..	..	..
	8th,	..	..	..			..	5	O
		..	6	..			..	4	O
		..	6	S		14th,	W	5	S
		..	7	S			NW	6	
		..	7	Q S			..	7	O
		..	7	Q O			..	8	O
		..	6	C			..	7	Q S
		N'	4	O			..	..	..
		NE	2	C		15th,	NW	6	C
	9th,	NE	2	B C			N	4	C
		E	..	..			NE	..	..
		N	3	..			E	3	O
		NW	..	..			S	..	..
		Calm	0				NW	4	O
	10th,	..	..	..			..	8	C
		NE	1	O G			..	7	C
		E	2	B C		16th,	NW	7	Q S
		SE	..	..			..	5	C
		..	..	..			..	3	B C
		Calm	0	O			..	6	C
	11th,	Calm	0	O			..	4	B C
		E	2	O			N	2	C

Log of H. M. Sloop COLUMBIA, Capt. P. F. Shortland, RN.
In Harbour at Halifax, NS. Lat. 44.40 Long. 63.31.
(Refer to explanation of terms at p. vi. Appendix.)

Time.	Wind.	Force.	Weather.	Time.	Wind.	Force.	Weather.
Mar 23rd.	NNW	1	B C	Sun. 24th.	..	2	O S
A	..	2	..		NNW	4	..
P M	..	3	..	P M	..	5	..
	..	1	..		WNW	6	..
	SE	2	O S		..	5	..

	25th.		NW	4	B C
			..	..	..
		P M	WNW	5	..
			..	4	O C
			NW	3	..
	26th.		WNW	4	..
			..	6	..
		P M	NW	4	C Q
			WNW	4	O C
	27th.		..	3	B C
			NW	2	B C M
		P M	WNW	3	B C
			..	1	O C
B			Calm.	0	..
	28th.		SSE	3	O S
			ESE	4	..
		P M	..	3	..
			..	5	O Q S
	29th.		NNW	6	O S Q
			..	7	..
		P M	..	5	O C
			..	6	O C Q
			..	4	B C
	30th.		..	4	..
			..	2	..
			..	3	O C
		P M	..	1	..
	Sun. 31st.		..	1	B C
			W	1	B C
	April 1st.		Calm	0	O C
C			NNW	2	B C
			..	2	..
			..	4	..
		P M	..	3	..
			..	2	..
	2nd		..	2	..
			..	3	..
		P M	..	4	..
			WNW	4	..
			..	1	..
	3rd.		NNW	1	B C
E			SE	2	O C
		P M	SW	1	..
			WNW	1	O D
			Calm.	0	M R
			..	0	M F
	4th.		WNW	1	O C
			NNW	2	..
		P M	NNE	3	..
			..	3	O G
			NNW	7	O S Q
	5th.		..	6	O S
			..	5	O C

		P M	N	4	C G
			NNE	2	B C
			NNW	2	O C
	6th.		..	2	B C
F			NE	3	O C
			SE	4	
		P M	NE	5	O S
			E	3	O C
	Sun. 7th.		..	5	O S Q
			NE	6	O S
		P M	..	5	O C
			NNW	4	..
			NW	4	..
	8th.		..	3	B C
			NNW	2	B C M
G			SSE	3	..
		P M	SW	3	B C
			..	2	O C
	9th.		SE	2	..
			WSW	1	..
		P M	NW	4	B C
			NNW	6	B C Q
	10th.		..	7	O S Q
			WNW	5	B C Q
		P M	NW	5	..
			N	5	O C Q
			NNW	5	O C
	11th.		..	5	O S
			..	4	B C
			NW	3	..
		P M	NNW	2	..
			Calm.	0	..
	12th.		Calm.	0	..
			NNW	1	..
		P M	S	3	..
			Calm.	0	..
	13th.		NW	1	..
K			Calm.	0	
		P M	S	1	B C M
			SSE	3	..
			..	5	B C
			..	8	O C
	Sun. 14th.		..	10	O C Q
			ESE	10	O S Q
		P M	..	7	..
			SSW	5	B C
			wbys	7	O C
			WNW	5	..
	15th.		..	4	O C
			WSW	3	O S
		P M	NNW	5	O S Q
			..	6	..
			..	7	O C

NEW YORK. Storms *A & B.*
March 23rd to 28th inclusive. Bar. below the mean, and weather more or less stormy; Bar. lowest 23rd, PM 29,69, and 28th PM 29.70
W. C. Redfield.

§ III.

Storm *A.*

London and New York Liner, WELLINGTON, Charles Chadwick, Commander.
New York to London.

WIND.				
6 a.m.	Noon.	6 p.m.	Mi dn.	
				Friday, March 22nd.
		SE	SSE	Noon. Lat. 40.24N Lon. 73.07W. Midnight Light breezes, wind increasing.
				Saturday, March 23rd.
EbyN	NNW	NNW	NNW	7 a.m. Heavy squalls, with strong gales from NE Noon. Lat. DR. 40.01. Long DR. 71.52. 3 p. m, Do weather with heavy squalls of snow. Strong breezes with do. squalls.
				Sunday, March 24th
W	W	W	W	6 a.m. Made all sail; strong breezes from West, & squalls of snow. Noon. Lat. 40.12. Long. 68.40. p. m. do. weather.
				Monday, March 25th.
W	W	W	W	a. m. Strong breezes from West, and fine. Noon. Lat. 39.46. Long. 65.35. 12 p. m. Strong gales; shipping much water.
				Tuesday, March 26th.
W	W	W	W	a. m. Moderate breezes, with heavy squalls of snow at 4 a m. Noon. Lat. 40 24. Long. 59.36. p.m. Moderate breezes; made more sail; squalls of rain from WSW.
				Wednesday, March 27th.
WSW	WNW	WNW	Calm	a.m. Moderate breezes and fine. Noon. Lat. 41.08. Long DR 54.00. p.m. Do. weather, made more sail. Midnight. Light baffling breezes.

C. C.

B. and N. American R. M. St. Packet CANADA.
Boston, U. S. to Liverpool.
(Communicated by Messrs. D. & C. M'Iver, of Liverpool.)

	Time.	Lat.	Long.	Wind.	Weather.
March 23rd.	Noon.	44.43	60.07		
	Midnt.			SE	Began to blow.
Sun.. 24th.	6 a. m.			SE	Hard gale.
	Noon.	44.51	54.55	SW	Increasing.
	6 p. m.			WSW	Strong gale.
	Midnt.			W	Steady.
25th.	6 a. m.			W	Steady and fine.
	Noon.	44.49	49.19	W	Steady.
	6 p. m.			SSW	
	Midnt.			E	Fresh.
26th.	6 a. m.			SE	Strong.
	Noon.	45.54	43.35	W	More moderate.
	6 p. m.			Vble	Strong.
	Midnt.			N	
27th.	6 a. m.			NNW	Strong.
	Noon.	47.00	37,16	WNW	Steady.
	6 p. m.			NW	Strong.
	Midnt.			NW	Heavy squalls.
28th.	6 a. m.			Vble	Light.
	Noon.	48.12	30.28	E	Light.
	6 p. m.			N	Strong ; Indications of coming gale.
	Midnt.			N	Hard gale ; weather very threatening and hurried
29th.	6 a. m.			N	Blowing furiously.
	Noon.	48.56	24.34	E	Fine wind.
	6 p. m.			E	Strong.
	Midnt.			N	Steady.
30th,	6 a. m.			NW	Squalls.
	Noon.	49.56	18.01	N	Steady.
	6 p. m.			NNW	Fresh.

London & New York Liner PRINCE ALBERT, F. R. Meyer, Commander.
London to New York.

Saturday, March 23rd.

Noon. Lat. 41.57. Long. 50.34. Course WSW. Light SW breeze, fine weather. 7 p. m. Commences to storm from SE. 9 p. m. Took in sail.

Sunday, March 24th.

a. m. Heavy gale and thick rain, with squalls from S. ; heavy sea on. Noon. Lat. DR 42.10. Long. Acct. 53.10. p. m. Fresh gale from SW, and heavy rain squalls ; Course WNW. 6 p. m. Wore ship to S ; Wind W.

Monday, March 25th.

9 a. m. Wore ship to NW ; a long sea setting to SE. Noon. Lat. Obs. 42.49. Long. 53.40. p. m. Strong weather, wind W, and rough sea. 7 p. m. Wind N. 10 p. m. Shifted to E.

Tuesday, March 26th.

a. m. Light variable winds at S, and calm. Lat. 43.14. Long. 53. p. m. Calm ; long rolling sea setting Eastward.

Wednesday, March 27th.

Weather calm and fine. Noon. Lat. 43.40. Long. 53.10. ——— Mate,

Abstract from Log of Brig VELOCITY, Capt. Holmes.
From Oporto to Philadelphia.
(Communicated by Messrs. Newman and Hunt.)

Date	AM	PM	Weather	Lat	Long	Remarks.
Mon, 25th.	WSW	SW	Squally	33,32	55,17	Strong wind and cloudy
Tues. 26th.	W	S	Fine	32,05	55,49	Light airs and fine

Abstract Log of the Ship HENDRIK HUDSON, I. Pratt, Commander.
Bound from New York to London.
Times of Observation A. M. Noon. P. M.

	Bar. 9 a, m,	Ther 9 a. m Air.	Wat.	Lat. Noon	Lon. Noon	Wind	Weather
March25.	29.60	50	56			WNW	Moderate and fine.
				42 21	45.36	Baffling	light winds.
						SSE	Strong breeze with rain.
26,	29,60	56	60			SSE	Strong breeze with rain
				43 38	42,53	SW	Strong breeze, [thunder,
						NW	Heavy squalls; lightning and
27,	29,44	52	58			NW	Strong breeze and cloudy.
				44 44	40,	WNW	Very heavy squalls,
						S	Strong breeze and rain,
28,	29,10	50	56			SSW	Heavy squalls with rain.
				44.35	35.40	NW	Strong gale & Lightning,
						NWbyW	Heavy squalls with rain,
29,	29,23	50	58			NNW	Ditto ditto
				44 59	31,30	NbyE	Less wind ; heavy sea from
						NE	Moderate & fine, [NW

J, Batt, Mate.

WASHINGTON, G. W. Floyd.
New York to Bremen; (corrected to civil time.)

Wednesday, March 27th.

Noon. Lat. 46.25. Long. 40.25. 1 p. m. Light and baffling breezes, WNW; all sail set. 3 p.m. Ditto NW. 4 p,m, Bar. 29.6. 5 p. m. N.E 6 p.m. Snowing; very little wind. 8 p. m. ENE. Bar. 29.6. 9 p.m. E. 11 p.m. Fresh breeze NNE. Midnight. Strong breezes NNW. and snow squalls. Bar. 29.5.

Thursday, March 28th.

4 a.m. Heavy squalls NW & snow. Bar. 29.4 8 a.m. Less wind; shook a reef out. Noon. Lat. 47.39 Long. 35.10 Bar. 29.4 1 p.m. Strong breeze NW, and frequent squalls of snow and rain. 4p.m. Bar. 29.3. 6 p.m. Strong breeze NW and rain. 8 p,m. Do, breeze NNW. Bar. 29,3 10 p m. Wind hauling NbyE set fore and aft canvas. Midnight Strong breeze NNE. and cloudy.

Friday, March 29th.

2 a. m. Strong breeze and cloudy. 4 a. m. Wind hauling a-head. Bar. 29.3 5 a.m. NEbyN. 6 a.m. Fresh breezes. 8 a. m. ENE. Bar. 29.3. Noon. ENE. Bar. 29.3. Lat. 48.31. Long. 30.50. 1 p.m. Light breeze ENE ; all sail set. 2 p. m. NEbyN. 4 p. m. NE. Bar. 29.3. 7 30 p. m. EbyN. 8 p. m. Bar. 29.3. 11 p. m. ESE. Midnt. S.E Bar. 29.2. Light breezes. Cloudy and rain these last 12 hours.

Saturday, March 30th.

4 a. m, Do. weather SE. Bar. 29.4. 5 a. m. SE: thick dirty looking weather, with frequent rain and squalls. 8 a. m. Bar. 29.4 ; breeze freshened till noon. Noon SE. Bar. 29.1. Lat. 49.9 Long. 25.42; a very heavy sea running from NE.

London and New York Liner NORTHUMBERLAND, J. M. Lord, Commander.
London to New York.

KF Course. Wind. Bar. Th.
Monday, March 25th.
Noon. 8 WNW SSW 30.0 60 Noon. Lat. Obsd. 46.27. Long. Chr. 39.30
1 P. M. 4 NNE NW p.m. Fine weather and light breeze; a heavy
3 P, M, WSW swell rolling from the SE. 4 p. m. Do, do.
Midnt. WNW E 8 p.m. Breeze light; made all sail.
Tuesday, March 26th.
6 A M SE Noon. Lat. Obsd. 46.07. Long. 41.00 Fresh
Noon. 29.9 60 breeze and clear weather. p.m. A fine breeze
1 P M S and clear weather; all drawing sail set.
3 P M NNE NW 4 p. m. Got a hard squall from the NW. furled top-gallant sails, double reefed top-sails; hard rain, &c. 5 p. m. Tacked ship.
6 P M W NNW 8p.m. Hard rain; distant thunder & lightning. Midnight. Fine weather.
Wednesday, March 27th.
7A M WSW NW 4 a.m. Hard squalls from the N. 8 am. Blowing hard from NW. Double reefed top-sails.
Noon. 29.8 53 Noon. Lat. Obsd. 45.00 Long. Chr. 42.30
1 P M SW Light breeze and cloudy. p.m. Fresh breeze & cloudy weather; under double-reefed topsails.
4 P M NNW W 4 p. m. Tacked ship, hard rain, breeze light.
8 P M WSW NW 8 p. m. Furled jib and main-sail; close reefed top-sails. 9 p. m. Wore ship; blows a gale from the NW. Midnight. A very rough sea on; ship labouring heavily, & shipping a great quantity of water.
Friday, March 28th.
Noon. 29.5 49 4 a. m. Do. do. 8 a. m. Do. do. Noon. Lat. Obsd. 44.29. Long. Chr. 43.30 Blows a gale, with cloudy sky. p. m. A gale of wind, & a high sea; the ship under close-reefed top-
8 P. M. W NNW sails; weather looking stormy. 8 p.m. Fine; turned a reef out of the topsails; set whole courses. Midnight, Fine and clear.

S. L. Spencer, Mate.

HERMANN, Steam ship. Bremen to New York.

Tuesday, March 26th.

a. m. Moderate breezes at Westward. Noon. Strong breeze from NW. Lat. 48.47 Long. 32.47. Bar. 30.16. p. m. Ditto weather. Midnight. Fresh gale and rain.

Wednesday, March 27th.

Strong gale and rain. Noon. Lat. 47.54. Long. 36.55. Bar. 29.54. p.m. Strong gale from West. Heavy sea running. Bar. 29.42.

Thursday, March 28th.

a. m. Gale increasing, tremendous sea; *ship reduced to half speed; towards Noon, heavy gale, with hail squalls.* Lat. 46.50. Long. 38.50. Bar. 29.36. p. m. Strong gales NW. Midnight. Bar. 29.36.

Friday, March 29th.

a. m. More moderate. Noon. More moderate. Lat. 46. Long. 41. Bar. 29.46

———— Mate.

B. and N. American R. M. St. Packet EUROPA.

Liverpool to Boston, U. S.
(Communicated by Messrs. D. & C. M'Iver, of Liverpool.)

		Lat.	Long.	Bar.	Wind.	Force.
Wednesday, March 27th.	Noon.	50.57	25.52		S.	Strong.
	6 p. m.				Var.	Moderate.
	8 p. m.			29.28		
	Midnt.				NNW.	Fresh.
Thursday, March 28th.	6 a m.				W'S.	Squally.
	8 a. m.			28.80		
	Noon.	50.27	30.40		WSW.	Fresh.
	6 p. m.				WNW.	Moderate
	8 p. m.			29.		
	Midnt.				Calm.	
Friday, March 29th,	6 a. m.				ENE.	
	8 a. m.			29.30		
	Noon.	49.15	37.02		N.	Light.

Brig HARMONY, Barbadoes to Cork.

Tuesday, March 26th. Light variable winds from NNW to SSW Lat. 41.10 Long. 33.53

Wednesday, March 27th. Fresh breeze from SSW to NNW and unsettled weather. Lat. 42,45 Long. 31.38

Thursday, March 28th. Strong breeze from NW to SW Do weather. Lat.44.36, Long. by acct. 27.39

Friday, March 29th. Strong breeze from NW with hard squalls, Lay to 9 hours, Lat. 45.21 Long. by acct. 25.11

Saturday, March 30th. Fresh breeze from NW throughout. Lat. 46.18 Long. by Chron. 22.50

R. M. W. I. St. P. Co. St. Ship TEVIOT.

St. Thomas to Southampton.

Wednesday, March 27th.

Noon. Lat. 34.34. Long. 36.43. Bar. 29.95. Steady moderate breeze NNW. and fine.

Thursday March 28th.

a. m. Bar. 29.88. Noon. Lat. 36.21. Long. 33.08. Bar. 29.88. Fresh breeze from the West, and cloudy. Fine weather for the last 24 hours. Winds variable between N. and W. 4 p. m. Bar. 29.70. 8 p. m. Bar. 29.67. 9 p. m. Light rain, thick and cloudy. Midnight. Strong breezes, and thick cloudy weather. Bar. 29.45.

Friday, March 29th.

a. m. Strong increasing breeze WSW. and thick heavy squalls, with rain. 4 a. m. Bar. 29.24. 5 a. m. Strong gale WSW. with thick rain, and heavy sea on. 6 a. m. Heavy squall with sudden shift of wind to North. 8 a. m. Bar. 29.28. Noon. Lying off Fayal Bar, 29.30. 1 p. m, Wind NW. 4 p. m. Bar. 29.80. 5 p. m. Wind N. 7 p. m. NNW. 8 p. m. Bar. 29.84. Midnight. Bar. 29.85.

Saturday,, March 30th.

4 a. m. Bar. 29.85. 8 a. m. 29.86. 10 a. m. Veering to SW. thick cloudy weather, with drizzling rain. Noon. Lat. 40.15. Long. 25.41. Bar. 29.87. Moderate breezes last 12 hours. 4 p. m. Moderate breeze WNW. Bar. 29.32.

Log of the Ship WELLESLEY, from St. Helena to London.

(Communicated by Messrs. R. & H. Green.)

	Course.	Wind.	Bar.	
				Monday, March 25th.
Noon.	NNE	WNW	29,76	Noon. Lat. 35,40 Long. 34,30
				Midnight Light airs and rain ; heavy swell at NW
				Tuesday, March 26th.
AM	Head to SW			2 am. Calm and cloudy 5 am. Light breeze spring-
5	NNE	NWly.		ing up, set top-gallant sails. 8 am. Unsteady and
8		WNW		cloudy ; confused sea on.
Noon		W	29.96	Noon. Lat. 36,52 Long. 34,00 Light breeze and
pm.	NE	WSW		fine. 5 pm. Fresh breeze. Midnt. Strong do.
6	NW			Wednesday, March 27th.
				am. Strong breeze increasing. Still fine.
Noon			29.92	Noon. Lat. 39,43 Long. 32,07 Gusty & strong.
1 pm.	ENE	NNW		8 pm. Passing squalls. Midnight. Do weather.
				Thursday, March 28th.
am.		NWly		6 am. Fresh gale, thick weather ; much sea on.
5		WSW		10 am. Ship labouring heavily, & shipping much
				water over all, with a heavy sea at NW.
Noon			29.58	Noon. Lat. 42.00 Long. 28.34 Moderating ; a
				high sea running, shipping very much water over
1 pm.	EbyN	W		all, and a great deal getting below. pm. Gale in-
2		NW		creasing ; do sea. 7 pm. Hard gale with furious
				gusts; very heavy sea on, hatches battened down.
				10 pm. Moderating, with passing squalls & rain.
				Friday, March 29th.
7 am.	NE	WNW		am. Hard gusts and rain. Towards noon moderat-
Noon			29.16	ing, with squalls occasionally. Noon. Lat. 43,28
1 pm.	ENE	NW		Long. 24.53 pm. Steady strong breeze and fine.
				Midnight. Increasing. with squalls.
				Saturday, March 30th.
				am. Fresh gale with passing squalls.
Noon			29.32	Noon. Lat. 45.12 Long. 21.48

B B GREENE, Mauritius to London.

(Communicated by Messrs. H. D. and Jas. Blyth and Greene.)

Tuesday, March 26th. Light Northerly winds. Bar. 29,90 Lat. 33,56 N Long. 31,57 W

Wednesday, March 27th. a.m. Increasing breeze and clear weather. Noon. Bar. 29,80 Lat. 35.53 Long. 30,25 p.m. Fresh winds and squally. 6 p.m. Bar. 29.80 Midnight. Bar. 29.75

Thursday, March 28th. a.m. Increasing breeze at W and cloudy. 6 a.m. Bar. 29.50 Noon. Lat. 38.44 Long. 30.10 Bar. 29.45 p.m. Strong W winds, with heavy sea on. 6 p.m. Bar. 29,30 Midnight more moderate, Bar. 29.30

Friday, March 29th. a.m. Fresh winds NNW and clear. 6 a.m. Bar. 29,20 Noon. Lat. 41.19 Long. 28.28 Bar. 29.20 p.m. Strong winds and squalls NW; ship labouring very heavily. 6 p.m. Bar. 29,20 Midnt. Bar. 29.30

Saturday, March 30th. Steady breeze SW Heavy swell from N and W. Noon, 43,16 Long. 26,24.

SEA PARK, Thos. Humphris, Commander.
Calcutta to England.

Time. Crse. Bar. Th.

Thursday, March 28th.

Noon. W. 30.35 65 Noon. Lat. Obs. 30.54. Long. Chr. 33.7. Light Northerly
2 PM. N'E. airs approaching to calm. p. m. Light NNW. breezes and fine clear weather.

Friday, March 29th.

a. m. Strong and increasing breeze; in fore and main topgallant studding sails and fore-topmast stud-sail; in royals and flying jib. 2.30. In top-gallant sails; wind increasing to a fresh gale, with a rising sea; in 1st and 2nd reefs of the top-sails; in jib and spanker; ship pitching
Noon. 30.00 66 hard, and shipping whole seas over all. Noon. Cloudy; Lat. Obsd. 33.8. Long. Chr. 33.12. **P.M.** throughout: Strong breezes W'N. cloudy weather, with a heavy cross sea causing the ship to pitch and labour heavily; shipping heavy seas over all, and pitching jib-booms and spritsail yards right in. 6 p. m. Washed away two lee ports on quarter deck.

Saturday, March 30th.

4 a. m. Strong winds and cloudy weather, sea subsiding. 5. Out 2nd reefs of the top-sails, fore and main, and set main top-gallant sail. 8. Fresh breeze and cloudy weather.
Noon. 30.00 66 Noon. Ditto weather. Lat. Obsd. 35.20. Long. Chr. 33.20.

J. Maude, Chief Officer.

H. M. Sloop COLUMBINE, Capt. J. C. Dalrymple Hay, R.N.
China to Plymouth.

Tuesday, March 26th.

Noon. Lat. 34.17 N. Long. 29.2 W.

Wednesday, March 27th.

5 a. m. Bar. 29.79. Calm with heavy swell. 8 a. m. Fresh breeze from NW. by W. with squalls and passing showers. 11 a. m. Bar. 29.80. Steady moderate breeze, N'W. Cloudy and gloomy weather. Noon. Lat. 35.28. Long. 27.37. Heavy Northerly swell. 2 p. m. Breeze freshening, weather clearing. 8 p. m. Ditto weather with moderate gale NNW.

Thursday, March 28th.

5 a. m. Bar. 29.82. Strong breezes NW. Blue sky, with clouds and hazy. 8 a. m. Wind freshening WNW. Cloudy and hazy. 11 a. m. Bar. 29.80. 11.50 a. m. Observed the Island of St. Michaels. Noon. Lat. 37.42. Long. 25.58. 2 p. m. Bar. 29.70. Moderate gale from W. cloudy, gloomy, and hazy. 5 p. m. Bar. 29.64. Wind WNW. 8 p. m. 29.55. Gale increasing, with squalls. 11 p. m. Bar. 29.50. Ditto weather, with heavy NW. swell.

Friday, March 29th.

2 a. m. Bar. 29.40. Ditto wind, weather, and sea. 5 a. m. Bar. 29.22. Overcast with heavy rain, strong Westerly gale. 8 a. m. Bar. 29.22. Gale moderating, squalls from NW. to SSW. Ugly and gloomy weather. 9 a. m. A very heavy and *most confused* sea, the most confused sea I ever saw. 11 a. m. Bar. 29.04. Strong breeze NW. with squalls, blue sky, and cloudy; a perfect race; washed away the gig. Noon. Lat. 39.49. Long. 22.42. 2 p. m. Bar. 29.10. Ditto weather, with

(Log of Columbine continued.)

heavy NNW swell and moderate gale, with squalls from NNW. 5 p. m. Bar. 29.16. Gale increasing from NW. with heavy squalls. 11 p. m. Bar. 29.21. Strong gale, with squalls from NW. Midnight. Under close-reefed topsails.

Saturday, March 30th.

2 a.m. Bar. 29.20 Ditto wind, weather, and sea, from NW. 8 a. m. Bar. 29.29. 11 a. m. Bar. 29.36. Noon. Lat. 41.53. Long. 20.12. 2 p. m. Weather clearing and moderating, with fresh gale at WNW. and heavy N Westerly sea.

Thos. Kerr, Acting Master.

Schooner ONWARD, at St. Michaels. Civil time.

Tuesday, March 26th. Fine weather with moderate breeze.

Wednesday, March 27th. Fresh breeze WNW. and W'N with showers of rain.

Thursday, March 28th. Strong winds WSW. with rain.

Friday, March 29th. SW. to NW. First and middle part; Strong gales ; much rain. 7 a. m. Slipped the chain and proceeded to sea. 8 a. m. Strong gale and rain. 10 a. m. More moderate. At midnight moderate and cloudy.

Saturday, March 30th. These 24 hours moderate breeze W's. Much fog and rain. 10 a. m. Came to the buoy. Strong wind at times. H—. T—.

CAMPERDOWN, from Calcutta to England.

(Communicated by Messrs. D. Dunbar & Sons.)

	Course.	Wind	Bar.	
				Tuesday, March 26th .
Noon.	E	SbyE	29.80	Noon. Lat. Obsd. 38,22 Long. 26,47 Light var-
				iable breezes, with rain ; ship under top-gallant
5 P.M.	ENE	SW		studding sails. PM. Moderate breezes and cloudy.
Midnt.		SWtoS		6 p.m. Squally. with rain. Midnight. Variable.
				Wednesday. March 27th
AM.		NWbyN		A.M. Moderate breezes and cloudy. At 10. Squal-
4		WNW		ly with rain. Noon. Moderate breezes and fine ;
Noon.			29.70	with little rain at times. Lat. Obsd. 40,05 Long.
PM.	EbyN	WSW		Chr. 24,51. P.M. Moderate breezes and hazy, in-
3		NW		creasing towards Midnight.
11		NNW		Thursday, March 28th.
6 AM.		NW		A.M. Strong breezes & squally 4a.m. More mo-
10		WNW		derate. At 10.30 a.m. Ship under royals and all
Noon.			29.60	studding sails. Noon. Lat. Obsd. 42.32 Long.
3 PM.		WSW		Chr. 21.29 PM. Increasing breezes, cloudy, with
5		SW		a changeable appearance. 4.30 p.m. Wind increa-
				sing and squally with rain; split the lower & main
				topmast studding sails. 5 p.m. In all studding
				sails, royals and fore jib ; Passed a brig standing
				to the Eastward under close-reefed topsails. 7pm.
				Squally with rain and lightning all round; In 1st
9		WNW		reef of the main topsail & 2nd of the fore and mi-
10		NW		zen ; handed fore & mizen top-gallt sails. 10 pm.
				A sudden shift of wind to the NW accompanied by
				rain thunder and lightning; up main-sail, in main
				topgallant sail .

(Log of Camperdown continued.)

			Friday, March 29th.
AM.	W		A.M. Strong gales from the Westward accompanied
7	WNW		by violent squalls and high sea; ship labouring
11	Wby N		heavily, and shipping water at times. 8 a.m. Do.
Noon.		28.80	wind and weather. Noon. Bent the main-topgallant
	NW to		sail and set it. Lat. Obsd. 45.04 Long. 18.25
	WNW		P.M. Fresh gales from the Westward, with a high
7	W to		confused sea, ship rolling heavily. 8 p.m. Moderate
	NW		breezes and clear. 9 p.m. Out second reef of
			the fore topsail, and set the fore topmast studding
			sail. Midnight. Do. wind and sea.
			Saturday, March 30th.
AM.	WSW		A.M. Fresh breezes and clear, with a high confused
			sea, ship rolling heavily, and shipping water at
5	WNW		times. 5 a.m. Out all reefs and set all studding
Noon.		29.90	sails. Noon. Moderate breezes and clear. Lat.
			Obsd. 46.46 Long, Chr. 15.25.

LORD PETRE, Mauritius to England.

(Communicated by Messrs, H D & Jas, Blyth & Greene,)

Time.	Wind.	Bar.	
			Tuesday, March 26th.
Noon.	S'E	29.90	Noon. Lat. 48.42. Long. 20.21. p. m. Moderate and
6PM.		85	cloudy.
Midnt.		70	
			Wednesday, March 27th.
6AM.	SSE.	68	a. m. Squalls and rain. In 2nd and 3rd reef of mainsail
Noon.		65	and jib. Noon. Fresh gale and squally. No observation.
6PM.	S'W.	50	Lat. by acct. 49.45. Long. by acct. 18.21. p. m. Strong
			gale with hard squalls; lay to [on tack] under two
Midnt.	SSW.	40	close-reefed topsails.
			Thursday, March 28th.
6AM.		30	a. m. Strong gales, hard squalls, continued rain.
Noon.	SW'S	25	Noon more moderate. Lat. 49.52. Long. by acct. 16.45.
6PM.		00	p. m. At 5 wind SW'S. cleared up. Out close reefs, and
Midnt.		28.90	made sail.
			Friday, March 29th.
6AM.	SSE.	85	a. m. At 6 shortened sail to two close reefs, and wore to
			Sd. From 6 to 9 a hurricane of wind and rain. At 10,
			wind Southward, wore to SSE. [*i. e.* on starboard tack. Ed.]
Noon.	S.	70	and lay to as before. Noon. Ditto weather. Lat. Obsd.
6PM.	S.	70	50.3 Long. Obsd. 15.35 4 p. m. Hard squalls, in foretopsail.
			At 8, the squalls more moderate.
Midnt.		75	Midnt. Clear weather, set foretopsail.
			Saturday, March 30th.
6AM.	SSW.	80	At 4 a. m. the squalls moderate, set foresail, out close reefs.
Noon.	SW.	80	8. Fine; out reefs, set top-gallant sails. Noon. Moderate
			and clear, confused sea. Lat. 50.24. Long. 14.58. At
			3 p. m. Squalls. Heavy head sea, shortened sail to close
6PM.	W.	90	reefs. 5. Wind variable to WSW. Made more sail.
Midnt.	W.	29.00	Midnight. Fine.

Sunday, March 31st.

6AM. wsw. 29.15 a. m. Fresh winds and variable w. to s by w. in top-gal-
Noon. s·w. 15 lant sails. Noon. Lat. 49·57, Long. 12.7. Cape Clear
n.49.e. 133 Miles.

John Middleton, Commander.

Log of H. M. Steam Ship GRIFFON.

From Pernambuco to England.

(Communicated by their Lordships the Commissioners of the Admiralty.)

Time	Course	Wind	Force	Weather	Bar.	Th.	Lat. DR.	Lat. Obs.	Long. DR.	Long. Chr.	
Monday, March 25th.											
Noon.	NE	ESE	4	B C	29.96	63	50.04	49.58	20.34	20.59	
1PM	SSE	Vble.	3	B C V							Lizard E 609 miles.
3	E										Current s70w 17 miles.
6	S	ESE			29.92	59					
7	SbyW		4	B C							
10	NE	Vble.									
Midnt.	ENE		1		29.89	59					
Tuesday, March 26th.											
1AM.		Vble.	1	B C V							
2		Calm									
5	NE	ESE	1	B							
6		SE		B C	29.80	58					
9		Vble.	1	B							
Noon.					29.77	58	49.54	49.45	20.19	20.43	
1PM.		SbyE	2	B C							Lizard N 78 E 610 miles.
5		Vble.	2								Current s 60 w 18 miles.
6					29.73	58					
7		SSE	3								
Midnt.					29.68	58					
Wednesday, March 27th.											
1AM.		SE	4	C Q							
4	ENE										
5			4	C							
6					29.62	58					
7			6	C							
9				C R							
Noon.					29.52	60	50.46	50.59	18.47	18.51	
1PM.		SE	5	C							Current N 10 W 13 miles
4			6	C D							
6					29.49	60					
7				C R Q							
Midnt.					29.33	58					
Thursday, March 28th .											
1AM.	ENE	EbyS	7	C R Q							
3	E	S	6								
4	ESE				29.24						
5				C							11.30 A sea struck the ship and washed away part of bulwark.
6					29.18	56					
8	SSE	SW	6	C Q							

(Log of the Griffon continued.

Time.	Course.	Wind.	Force.	Weather.	Bar.	Th.	Lat.	Long.
11			7				Sea rising fast.	
Noon.			9 to 10		29.14	58	52.00 52.23	16.04 16.45
1 pm.			9	c q p			Current N 48 W 34 miles.	
4			10	c Q u g				
6					29.10	56		
9			8	c q r			6 pm. Very heavy sea	
10			7				from Southward.	
11			6					
Midnt.					29.07	60		
Friday, March 29th.								
1 am.	SE	SW	6	b c q				
3			7	c o r	29.06	58		
4			8					
5	ESE			c q r				
6					29.00	56	8 a m. Lying to.	
9			9					
10		SSE						
Noon.					28.87	56	52.31 None.	15.36 15.36
1 pm.		SbyE	9	p c q			3 pm. Heavy gale.	
3			11½	c Q r u			5.30 Wore; Heavy	
4			8	c q			sea from SSE	
6	SW½S		8	c d	28.77	66		
9	SW	SE		c				
11			7					
Midnt.					28.69	50		
Saturday, March 30th.								
1 am.		SEbyS	6	b c				
4		SSE	5					
5			4					
6					28.66	64		
9				c r				
11			4	b c				
Noon.					28.55	56	52.08 52.22	16.14 16.10
1 pm			2	b c				
2	WSW	S						
3	ESE							
5	E	SbyE	2					
6					28.56	62		
7		Calm	0	c d o				
9	SbyE	WNW	1	b c				
11			2					
Midnt.		W			28 72	60		
Sunday, March 31st.								
1 am	SE	WbyS	5	b c				
5			5	c				
6			7	b c	28.83	66		
7			6					
8			5					
9		SWbyW	6					
10	SE	WSW						
11		SSW					51.33 51.45	14.25 14.05
Noon.					28.97	62	Current N 46 E 18 miles.	

NAUTILUS, W. A. Davidson, Commander.

From Mauritius to Cork.

(Communicated by Messrs. H D & Jas. Blyth & Greene.)

Wednesday, March 27th.

Noon. Lat. 49.38 Long. 12.18 Winds SSW to SW Strong and squally, Bar. 30.00 to 29.92 falling.

Thursday, March 28th, (Civil time.)

Noon. Cape Clear N½E 24 miles. 8,30 p.m. Came to in 12 fathoms. Spike Island WbyN and Queenstown N½W Fresh gales and hard squalls. Midnight. Do. weather.

Friday, March 29th.

Strong gales and squally. Noon. Do. weather with rain. 4 p m. Bar. 29 40 8 p.m. Heavy gales with rain. Midnight. Do. weather. Wind SSE to SE.

Saturday, March 30th.

Strong gales & heavy squalls with rain. 5 a.m. Blowing a complete drift of wind. Noon. Do. weather. Bar. 29.29 Wind SE 8 p.m More moderate. Midnight. More moderate and thick weather.

H M. Sloop ALERT.

Coast of Africa to Plymouth.

Wednesday, March 27th. Noon. Lat. 32.8 Long. 24.26 Calm. 6 p.m. Moderate breeze NNW 6.50 p.m. In royals and jib. Midnight. Moderate breeze N. Bar. 30.10

Thursday, March 28th. 6 a.m. Do. breeze NW 7,10 a.m. Carried away jib halyards. Noon. Lat. 33.43 Long. 23.4 Moderate breeze NNW. Midnt. Breeze freshening NW

Friday, March 29th. 6 a.m. Strong breeze NW Noon. Lat. 35.34 Long. 21.17 Bar. 29.79 Moderate gale WSW 1 p.m. Overcast and gloomy, with squalls and rain. 5 p.m. Wind, blowing a fresh gale, shifted in a heavy squall from SW to NW 6 p.m. Gloomy weather and misty; fresh breeze from NW with squalls. Bar. 29,60 11 p.m. Do breeze. Bar. 29,82 Weather clearing, cloudy, with rain.

Saturday, March 30th. 1 a.m. Blue sky, cloudy, with squalls. 6 a,m. Do breeze. 9 a.m. Overcast and gloomy. Noon. Lat, 37-57 Long, 19.53 Bar. 29.85 Moderate breeze NW 7 p.m. Gentle breeze SW

RANDOLPH, from Calcutta to England.

(Communicated by Messrs. D. Dunbar & Sons.)

	Course.	Wind.	Bar.	Th.	
					Thursday, March 28th.
Noon.	E	N	30.28	70	Forenoon. Moderate breeze and fine. Noon. Do.
8pm.			30.28		weather. Lat. Obsd. 32.50 N Long. Chr. 22.59 W
Midt.	NE	NW	30.20		10 pm. Almost calm.
					Friday. March 29th.
6		WNW			1 am. Moderate and cloudy. 6 am. Gradually in-
9		W			creasing breeze. Forenoon. Strong winds and
11		WSW			cloudy dirty-looking weather. Noon. Strong breeze
Noon.			29.92	68	and dirty-looking weather. Lat. Obsd. 34.49
1 pm.		SWbyW			Long. Chr. 21.16 1 pm. Hard gale with heavy
					sea, ship rolling heavily, split lower studsail; In

(Log of Randolph continued.)

				topgallant sails, 2 reefs fore and mizen topsails, & 1st reef in main, stowed mainsail. 4 pm. Heavy
5	W			breeze with nasty sea, ship rolling heavily, and
8	WNW	29.90		shipping a great deal of water. 8 pm. More moderate. 10 pm. Fresh gale, with nasty sea, rolling and knocking about a great deal.
				Saturday, March 30th.
				1 am. Strong breeze and squally, with nasty sea,
4	NW			making water. 4 am. Less wind. 6 am. Do. weather, with heavy NW swell; Set all plain sail.
Noon.		29.87	69	Noon. Light breeze; rolling heavily. Lat. Obsd.
Midnt.		29.91		37.9 Long. by Chr. 19.3. pm. Do. weather.

Brig BRILLIANT, at Madeira.

(Communicated by Capt. J. B. Caldbeck)

March 26th, Noon. Funchal EbyN. distant about 10 miles, Calm and hazy.
Midnight, Light Easterly airs and clear.
27th. 9 a.m, Came to anchor in Funchal. Noon, Light airs. p,m, Do.
28th. a.m, Light WNW winds and clear. Do. weather all day, Midnt. Calm.
29th. Light winds at W & S this day, and clear weather.

Log of MADAGASCAR, from London to Madras.

(Communicated by Messrs. R. & H. Green.)

			Bar.	Th.	Lat.	Long.
March 27th.	Dirty weather and squally.	WNW				
NOON.	Light breeze and fine.	WNW	29.45	68	22.49	16.51
PM.	Moderate and fine.	NW				
March 28th.	Light breezes and fine	NNW				
NOON.	Inclining to calm.	N	29.52	67	20.59	17.53
PM.	Steady and fine.	NNE				
March 29th.	Steady trade and fine.	NNE	29.55	71	18.30	18.31
March 30th.	Vble. at daylight.	NE				
NOON.	Fresh trade and fine.	NE	29.53	77	15.23	10.17
PM.	Increasing and cloudy.	NNE				
March 31st.	Moderate and fine.	NNE	29.92	76	12.05	19.43

Penin. and Orient. Co. S. S. POTTINGER, from Malta to Gibraltar.

Friday, March 29th. Lat. 36.57. Long. 2.25 E. Bar. 29.94. Steady wind E.
Saturday, — 30th. Lat. 36.26. Long. 2.32 W. Bar. 29.90. Light airs E. & N. Midnight. Dark weather, attended with rain. Bar. 29.85 drooping. Winds light at SE.

Penin. & Oriental S.N. Co. S.S. PACHA.

Lisbon to Southampton.

Time.	Wind.	Bar.	
			Friday 29th.
1 AM.	WSW.	29.80	Lying in Tagus. Light breezes and cloudy.

(Log of Pacha continued.)

	Wind.	Bar.	
Noon		29.80	Light airs and fine. 1 p. m. Steady breezes.
8.15	sw.		Slipped from the buoy and proceeded down the Tagus.
Midt.	s.		Midnight. Freshening breeze and threatening weather.
			Saturday 30th.
AM.	ssw.		a. m. Strong breezes and heavy swell setting in from West. 0.30 a. m. Finding it impossible to communicate with Oporto, bore up for Vigo. 6 a. m. Fresh gale and thick weather, with a heavy sea running in from Westward; brought the ship to with head to ssw. [Sea on starboard bow. Ed.] 7 a. m. Weather clearing up, stood in, and made the land. 8 a. m. More moderate with less sea; Viana
Noon	sw.		Town E's 6 miles. Noon, strong breezes and cloudy. 0.25 p. m. Came to off Vigo, 2.25 proceeded full speed out
4PM.	wsw.		of Vigo Bay. 4 p. m. The ship under fore-trysail, jib, fore-
6	wsw.		sail, and trysail. 6. Strong breezes and confused sea.
9	sw.		7. Squally, in square foresail. 9. Set foresail. 10. Set top gallant sail. Midnight. Steady breeze and fine weather.
			Sunday 31st.
Noon	ssw.	29.61	a. m. Steady breezes. Noon. Steady breeze and cloudy weather. Lat. 45.11. Long. 8.23.

W. S. Burn, Second Mate.

In reference to the Logs of the Vessels belonging to the Peninsular and Oriental Steam Navigation Company, I have to make my best acknowledgements to Capt. R. D. Guthrie, who for auld lang syne obtained for me the greatest facilities for inspecting and copying the very valuable records in their offices, not only from the Directors of the above Company, but from other gentlemen referred to in this work.—F. P. B. M.

Pen. and Or. S N Co S S MONTROSE, T. Bowen, Commander,
Southampton to Gibraltar
Thursday, March 28th

Time.	Course.	KF	Wind.	Bar.	
Noon.	WSW	8.4	NE	29.98	Noon. Lat. 49.00 Long. 4.43 Light breezes and
1PM.		8.2	SSE		fine. 1 pm. Light winds and fine. 4 p.m. Increas-
4			S	29.88	ing breeze from S, and hazy to the E; saw Ushant
6		8			bearing SW¾S. 6 pm. Strong breezes & cloudy. 7 pm. Wind increasing at SSE. down FTG yards
8			SSE	29.88	and shut in ports and dead lights. 8. Fresh breezes
Midnt.	SWby W	6.4		29.75	and squally. In main trysail. Midnight. Fresh gale, with heavy cross sea; ship labouring much.
					Good Friday, March 29th.
					1 am. Fresh gale with high sea, ship labouring much, and shipping a good deal of water; in jib.
4AM.				29.60	4 am. Do. weather. 5.30 Shipped heavy sea, which stove in bulwark on port bow. [N.B. The

(Log of Montrose continued)

					ship was on port tack.] 8. Continued fresh gale,
					with heavy cross sea ; ship labouring much. 9 30
					In first reef fore and main trysails, and set them.
Noon.	SW	6		29.50	Noon. Strong gales, with high sea. Lat. Acc. 47.6
4PM.				29.50	Long. Acc. 6.48 4 pm. Strong gales, with heavy
					squalls ; close reefed trysails and set them ; ship
					labouring much. 6 pm. More moderate with heavy
8		7.4		29.42	rain at times. 8 pm. Strong winds, with thick
10			SbyE		hazy weather, with a confused sea. 10 pm Wind
Midnt.		7		29.40	SbyE. Midnight. Same weather.
					Saturday, March 30th.
1AM.			S		1 am. Strong winds and cloudy, with rain at times.
4		6		29.20	4 am. Do. weather. 5 am. Increasing gale. 6 am.
					Strong gale with hard squalls, and heavy confused
7.30			SW		sea. 7.30 A shift of wind to the SW, with heavy
8	SW	3	SW	29.20	squalls. In trysails and down foreyard. 8 am.
					Continued gales and high sea ; vessel shipping
Noon.		6		29.30	much water, and labouring much. Noon. Fresh
					gale and cloudy. Lat. 45.15 Long. 8.24 1 pm.
4PM.		5		29.30	Fresh gale SWbyS, and cloudy. 4 p m. Fresh
8			WSW	29.40	gale, with hard sea. 7 pm. Wind WSW. 8 pm.
Midnt.				29.50	More moderate. Midnight. Strong head winds
					and cloudy.
					Sunday, March 31st.
4AM.				29.50	am. Strong winds with heavy squalls. 4. Strong
8AM.				29.55	winds and hazy, with rain at times. 8 a.m. Same
					weather. Saw the land bearing SbyE, too hazy
					to distinguish the locality. 10 am. Performed di-
Noon.				29.52	vine service. Noon. Increasing gale, with a heavy
					head sea, not clear enough to make out the land.
					Lat. 43.22 Long, 9.26.

Jeremy Collier Angove, Chief Officer.

Pen. and Or. S. N. Co. S.S. EUXINE.
Southampton to Constantinople.

Time	KF	Wind.	Bar.	
				Good Friday, March 29th.
Noon.		SSE.		0.10. p. m. Proceeded at full speed from Southampton
4.	7.6			Dock. 4. Fresh breeze, increasing sea, and threatening
				appearance to windward ; Portland Bill bearing N½E. 14
5.	8.4			miles. 5. Increasing wind and sea ; in jib, square fore-
				sail, and 1st reef fore-topsail. 8. Ditto wind and weather.
Midt.	7.4		29.75	Midnight. Strong breeze and squally, with cloudy weather,
				and heavy sea ; shipping water heavily.
				Saturday, March 30th.
				a. m. Strong breeze and squally, with cloudy weather and
				heavy sea, ship rolling heavily, and shipping much water.
				4. Ditto wind and weather, with less sea. 8. Ditto ditto.
Noon.			29.40	9. In fore-topsail. Noon. Strong breeze and cloudy with
				heavy sea, shipping much water over all. Lat. Obs. 48.42

PM.		SSE.		Long. DR 5.18. p. m. Strong breeze and cloudy, with
4.	6.	SW.		much rain and heavy sea. 4. Ditto weather; wind heading, took in fore trysail. 8. Decreasing wind, and cloudy,
9.	7.4	SSW.		with heavy confused sea. 9. Ditto weather. 11. Moderate
			29.40	breeze and heavy sea, occasionally shipping much water.
				Sunday, March 31st.
AM.		SSW.		a. m. Moderate and fine, with much sea; ship rolling heavily. 4 a. m. Ditto wind and sea. Cloudy weather.
Noon.			29.58	8. Moderate and cloudy, with less sea Noon. Ditto wind, weather, and sea. Lat. Obs. 40.35. Long. Chr. 7.46

H. W. King.

Chasse-Maree LUSSEAU, Devineau. from St. Gilles to Plymouth.

29th. Noon. Lat. 48.2 22 Long. 7.12.18 Began to blow a most tremendous gale from SSW, which lasted about 24 hours, and then subsided, but for
30th. several days following experienced very bad weather.

By Treeby & Co. Plymouth.

Abstract of Log of Schooner ROLLO, from Jersey to Newfoundland.
(Communicated by Charles Le Quesne, Esq.)

		Lat.	Long.	Wind.	Weather.
March	27th,	49,13	3,9	Vble	Fresh breeze and squally, with rain.
	28th,	49,21	4,33	Do	Do. do. Cloudy, with rain at times.
	29th,	49,5	9,33	StoSSW	Strong gale and squally, with rain.
	30th,	49,38	13,49	SWtoWSW	Strong gale; Moderate with rain.
Sun.	31st,	50,26	16,51	SW	Fresh breeze and squally, with rain.

London & New York Liner AMERICAN CONGRESS, T. H. Williams, Master.
London to New York; (corrected to civil time)

Thursday, March 28th.

Noon. The Lizard Point bore North, distant 8 miles; fresh breeze SSW. with passing clouds; course WbyN. p. m. Strong breeze increasing.
Midnight Course NW by W.

Friday, March 29th.

a. m. Fresh gale and cloudy. 4. Strong gale. 6AM. Wind S. Noon. Squally, with heavy rain. No Obs.

Copy of Abstract of the Schooner OCEAN.
From Jersey towards Jerseyman's Harbour, Newfoundland.
[Reduced from Nautical to Civil Time. Ed.]

	Latitude.		Longitude.		
	DR	Obs.	DR	Chr.	
At 9 p.m. Thursday 28th the Corbiere bere NNE distant 2 miles.					
Mar. 29th.	49.29	49.33	4.47		a. m. Strong SSE breeze and hazy. p. m. Strong SSE breeze. Midnt. Fresh gales SSW.
30th.	49.43		8.53		a. m. Fresh gale SSW. Noon—p. m. Do, Midnt. Moderate breeze SWbW.
Sun. 31st.	50.02	50.08	11.35	11.37	a. m. Do. breeze and cloudy. p. m. Do.

Log of H. M. Ship CROCODILE, at Cork.

(Communicated by their Lordships the Commissioners of the Admiralty.)

	Wind.	Force.	Weather.	Bar.	Th.
	Thursday, March 28th.				
4AM.	SE	3	B		
8	..	3	..	29.96	50
Noon.	S	5	..		
4PM.	SbyE	5	B C		
8	..	5	..	29.92	48
Midnt.	SSW	6	..		
	Friday, March 29th.				
4AM.	SSE	5	B C		
8	SbyE	6	..	29.78	49
1PM.	SE	7	B C Q	29.68	
4		8		29.50	
8	ESE		O C Q R	29.48	46

	Wind.	Force.	Weather.	Bar.	Th
	Saturday, March 30th.				
4AM.	SE	8	M C Q R		
8	SSE	..	M Q R	29.30	50
4PM.	SE to	7	O Q R		
8	SSE	6	..	29.28	50
9	Vble.	4			
Midnt.	SW	6	..		
	Sunday, March 31st.				
4AM.	SW	4	O Q R		
8	..	3	..	29.32	52
1PM.	Vble.		..		
4	SSE	4	B C		
8	..	..	C M	29.41	50

§ IV.

The Vessels, whose Logs are included in this Section, are chiefly Steamers running between the Home-Ports, and those of the Channel, and I beg to acknowledge the ready attention and courtesy of the gentlemen commanding them, with my best thanks for the valuable information they gave me in reply to my Letters of Inquiry.—F. P. B. M.

H.M. Revenue Cruizer BADGER, off Castle Townsend, Co. Cork.
Saturday, March 30th.

Although the gale experienced so heavily on the Coast of England was to this part of Ireland merely a common gale, the sea was unusually high, perhaps heavier and of much longer continuance than has been known for some years. On the 30th of March, the Schooner Waterwitch arrived, and with difficulty ran through the breakers; her Master reported to me that the sea was terrific, he had been hove to the night before, and that the wind was nothing in comparison to the sea.

J. Carter, Commander.

H. M. Revenue Cruizer AMPHITRITE, in Galway Roads.

March 29th. am. Fresh SE gales, and squally weather. 8 am. Strong gales & squally.
30th. 8 am. Strong gales at ESE and squally. Midnight. Fresh gales and squally.
31st. 1 am. Fresh gales SSE and squally. 4 am. Strong breezes & cloudy.

H. M. Revenue Cruizer ELIZA, at Broadhaven Bay, Co. Mayo.

Wednesday, March 27th.

4	Vble.	4	b	6 am. Weighed and stood out cruizing.
8	SSW	1	c p s	
10		0	b	
Noon.	SSW	2	b	
4PM.	NNE	1	b	6 pm. Anchored at Broadhaven.
Midnt.	NNE	2	c	

Thursday, March 28th.

4AM.	SEbyS	4	b	5 am. Stood out cruizing on station.
8		4	c	
Noon.		8	c	
4PM.		8	o g	6.30 pm. Came to anchor at Broadhaven.
8		9	o g	9 am. Let go small bowers.

Friday, March 29th.

4AM.		9	o g p	At anchor; both anchors down; stress of weather.

Saturday, March 30th.

1AM.		9	o q r	am. Both anchors down; stress of weather.
4		9	o Q r	
Noon		10	o Q r	pm. Veered to 60 fathoms on B Bower, and 30 on S Bower.
6PM.	SWbyS	10	o Q r	
10		10	b	

Sunday, March 31st.

4AM.	SW	6	b p	8 am. Moderate; weighed and sailed under double-reefed mainsail and 5th jib.
4PM.	SE	6	b	
8	S	7	b	pm. Worked back, & at 6 pm. anchored at Broadhaven.

Peter O'Malley, Commanding.

H. M. Revenue Cutter CHANCE, Coast of Mayo, M. Smith, Commander.

March 28th.	9AM,	s	Began to blow strong, with drizzling rain
	2PM, 6,30	sse	Veered to SSE squally, with dark heavy clouds passing to NW; worked into Claggan Bay; at 6,30 pm. came to from stress of weather, lying with both anchors a-head; & continuing so till A.M. 31st.
29th,		sse	am, Strong gale and squally, blue sky with detached opening clouds. 1 pm, Whole gale. 8 pm, Squally with passing showers. Midnight. Gale unabated, with heavy rain.
30th,		sse	Whole gale with passing showers.
31st,	3AM,	s	Wind veered to S. Strong gale, sky overcast with rain.
	7AM,	ssw	Wind veering to SSW.
	1PM,	sw	Blowing a fresh gale [9 pm, the next storm began.]

H. M. Revenue Cutter STAG, Lt. George Westbrook, off Blacksod Bay.

Wednesday, March 27th.

7PM,	e	3	b	Particularly fine.

Thursday, March 28th.

1AM,	sse	3	b
4		4	b c m
6		5	
9	sebys		
Noon,		6	
1PM,		7	o q

(Log of Stag continued.)

6	SSE			Sunset. Weather threatening. Squalls increasing. An-
8		9	Q	chored in Elly Bay, Blacksod Bay
10		8		Let go both bowers, and prepared for a storm
				Friday, March 29th.
1AM,	SbyE	8	CM	
4	S	8	Q	Squalls not violent, not exceeding 10.
1PM,		8	CMQ	
3		9		5 pm, Squalls increased to No. 11, with rain
5		10	QR	Wind steadfast from S these 12 hours
				Saturday, March 30th.
10AM,		9		Squalls did not exceed No. 11 this am, Rain nearly con-
11	SbyE			tinuous.
3PM,		10	QR	About 4 pm, the gale was at its greatest force, up to No
6	SWbyS			12 in the gusts; continued so till 5,30, when the wind sud-
7	S	9		denly shifted 4 points. At 7 pm, Backed again with less
11	SbyE			force, not exceeding No. 10 the whole night
				Sunday. March 31st.
1AM,	SSE	8	QP	Squalls less frequent, and not exceeding No. 9, with slight
9	SWbyW			showers; Squalls ended at 10 am.
11		8	C	
1PM,	SSE	8	PQ	Wind gradually decreasing
7	SWbyW	7		
9	SSE			
12		6		
				Monday, April 1st.
1AM,	SbyE	5	BC	Daylight unmoored. 10 am, Stood out cruizing.
5	SSE	4		Noon. Weather began to appear threatening.

DUKE OF CORNWALL; Fred. Higginson, Dublin to London.

March 28th,	Noon,	SE	Fresh and cloudy. Sailed from Dublin.
29th,	1AM,	SbyE	Increasing gradually to this time; complete hurricane.
	Noon,		Gale at its height. Lat. Obsd. 50,59 N Long. 5,42 W At this time it was blowing a complete hurricane.
	4PM,		Wind abating a little, but still a strong gale. Very heavy sea running.
30th,	Noon,	SE	Do. weather. After this time it moderated gradually.
	5,30		Arrived at Plymouth.
Midnt,		S	Left Plymouth with light winds.

PREUSSICHER ADLER, W. L. Tooker, Cork to London.

March 28th,	4PM,		Left Cork.
	Midnt,	SEbyS	Strong gales, heavy head sea increasing fast.
29th,		SEbyS	Heavy gales, high sea.
30th,			Wind and weather as before; thick and hazy.
	8,15	S	Off the Long Ships, sea very high indeed, but wind more moderate. NB. This passage which took me 36 hours, I usually do in 15.
	8PM,		Arrived at Plymouth. The latter part of this day the wind blew very steadily from SSE. At this time 8 pm, I remarked the very unusual darkness that prevailed.

Screw Steamer SHAMROCK, Wm. Bishop. Dublin to Plymouth.

March 28th. 11.20 p.m. Left Dublin. Light airs, SE.

29th. Moderate breezes at SW. 8 p.m. Arrived at Waterford.

30th. Commences with strong gale at SSE. with cloudy weather and rain at intervals; wind veering to SSW. Blowing strong gales all these 24 hours.

31st. Commences with strong gales at SW. 8 a.m. More moderate. 10 a.m. Left Waterford.

FOYLE, Robert Kempston. Waterford to Liverpool.

March 29th. p.m. SE. Left Waterford and steamed over under the Welsh shore. 8 p.m. SE. Course E. Midnight SE blowing strong.

30th. 4 a.m. Wind veered to ESE, and increased. 6 a.m. Being close to the shore under high mountains, I did not feel the weight of the gale. 9 a.m. Off Bardsey Island; altered course to NNE. 2 p.m. Off S Stack, wind at SE, blowing hard.

SHAMROCK, J. Hyde. Bristol to Dublin.

March 29th. 8 a.m. Left Bristol; moderate breeze at S. 2-3 p. m. Breeze increasing, with hazy black clouds. 10 p.m. 8 to 10 miles N of St. David's Head, blowing a heavy gale at SSE; set storm foresail, with double reefs, thinking gale would blow over.

30th. 6 a.m. Wind veered to SSW, with heavy showers, and at 8 a.m. moderated a little. Noon. Increased again to heavy gale at SSW, though not so heavy as on preceding night.

31st. 3-4 a.m. Gale abated (about this time arrived in Dublin.)

DUKE OF CAMBRIDGE, Rd. Williams. In Dublin Harbour.

March 29th. SSE. Blew very heavily.

30th. I was to sail for London at Noon, but the weather was so bad, with a heavy gale of wind, I did not start until Sunday, 31st. 11.20 a.m. the weather having become more moderate.

MAIDEN CITY Steamer. Londonderry to Liverpool. R. D. Crompton.

March 28th.	1.30 p.m.	SSE.	Cloudy sky. Left Londonderry.
	6 p.m.		Left Lough Foyle.
	7.30		At Port Rush; Cloudy and squally.
	9.30		Fresh breeze; Short sea from SSE. Rounded Fair Head.
29th.	1.30 A.M.	SSE	Heavy sea on; abreast of Maiden Lights.
	5.40		Abreast of Mull of Galloway; strong breezes; heavy sky.
	8.30		Rounded the Point of Ayr, Isle of Man. Heavy sea running.
	Noon.		Cloudy.
	6 P.M.		Strong gales; dark cold weather; made the Bill Buoy.
	7.30	SSE	Gale increasing; arrived in Liverpool.
	Midnt.	SSE	Blowing a heavy gale.

VICTORY, William Johnston. Liverpool to Londonderry.

March 29th.	11.30 A.M.	S	Clear weather; left Liverpool.
	7.30 P.M.	SSE	Sky overcast and looking bad; passed the Point of Ayr, Isle of Man.
	10 P.M.	SSE	Blowing a gale, with heavy drops of rain; abreas of the Mull of Galloway.
30th.	2 A.M.		Abreast of the Maiden Lights; gale increasing, with rain.
	3.30		At Fair Head; heavy squalls with rain.
	5 A.M.		In Port Rush; gale continued.
	Noon.		Sky breaking to the SW.
	1 P.M.		Little more moderate.
	1.30		Got out of the Harbour.
	2.30	SSE	Blowing a hurricane, with thick rain.
	4.30	WSW	At Derry Quay; moderate with thick cloudy sky.

BLENHEIM, John Gowan. Belfast to Liverpool.

March 28th.	8.30	SE	Strong breezes with thick rain. Left Belfast.
	10 P.M.	SSE	Thick weather; passed Donaghadee.
29th.	3 AM.		Ditto weather; passed the Calf of Man.
	9.45		Moderate weather and clear; abreast of the NW Light ship.
	11 A.M.		Got into Clarence Dock at Liverpool.
30th.	11.30 P.M.	SEtoS	Blowing a heavy gale; left Liverpool.
31st.	Noon.		Do. weather, with very thick rain, and a heavy sea up to about Noon.

SIR FRANCIS DRAKE, Wm. Sadler. Jersey to Plymouth.

March 28th.	Midnt.		About this time the gale commenced; In Jersey harbour,
29th.	Night	SSE to S	the heaviest part of the gale was during the Friday night and the Saturday the wind from SSE to SE, with heavy showers of snow, sleet, and rain; at intervals could not discern objects more than a few yards distant; in the channel a heavy sea was running.

EXPRESS, Jersey to Southampton.

March 29th.	8 a.m.	Left Jersey at usual hour, with strong breeze SE and heavy sea during the day. Latter part heavy gales SE to ESE.
	9 PM.	Reached Southampton a little later than usual time. **NB.** The strength of the gale had not commenced when the ship got inside the Needles.

Wm. Green, Manager, Steam Packet Dept.
London and South Western Railway

R. M. Steamer COURIER, Southampton to Jersey.

Friday, 29th March.

SSE. Noon. Strong breezes and cloudy. Midnight. Brisk gales and hazy; started from Southampton.

Saturday, 30th March.

a.m. Brisk gale and hazy. 1.35 Abreast of the Needles Rocks. 9.45 Arrived at Guernsey; landed mails and passengers; so much sea could not land the cargo. Noon. More moderate. 0.50 p.m. Arrived at Jersey.

ROYAL WILLIAM Steamer, Wm. Williams. London to Cork.
March 28th. Left London in the morning; fine weather without any high winds or
29th, rains, until the 30th, with the exception of fogs at times.
30th. Left Plymouth in the morning; blew strong SE breezes, with fog during the remainder of the passage to Cork.
31st. Arrived at Cork.

AJAX, S. S. Mowle. London to Cork.
March 28th. Left London for Cork.
29th. SSE. Strong breeze going down channel.
Midnt. Blowing hard, not a strong gale; lay in Plymouth.
30th, 8 a.m. Left Plymouth & had a fine passage to Cork.

W. I. R. M. Steam Packet Company's Ship **SEVERN**, in Southampton Dock.
March 30th. a.m. to April 2nd. Noon. The wind all this time was steady at SE.

CLARENCE, D. Turner. London to Edinburgh.
March 30th. 10 p.m. ESE. Moderate breeze; sailed from St. Katherine's Wharf.
31st. 2 a.m. SSE. Wind chopped round, and continued so during the remainder of the voyage. N.B. We experienced no gale during the voyage.

MALCOLM BROWN, Josh. Manning. Guernsey to London.
March 29th, p.m. NE. NEbyE. Blowing a strong gale. Left Guernsey.
30th, a.m. Moderated a little. p.m. ENE. Increasing again.
31st, a.m. Increasing gales with squalls.
10 p.m. SEbyS.
April 1st. 4 a.m. to SSE. Terrific gale; at its height about Midnt.

ROSE, J. W. Rochfort. London to Dublin.
March 29th. 1 p.m. E and ESE. Blowing a strong gale. Left London.
11 p.m. Do. weather, anchored off the Nore for the night.
30th, 6 a.m. SE. Blowing a double-reefed topsail breeze. Weighed anchor and proceeded down the Middle Oaze and Prince's Channels.
5 p.m. SSE. Blowing as above; heavy sea running; passed the Tongue-light ship.
7.30 Passed the Royal Adelaide steering North; exchanged signals.
Midnt. SSE. Strong wind and hazy weather.

SIR E. BANKS, George Balliston. London to Ostend.
March 30th. 2 a.m. SE. Wind strong. Left London for Ostend.
4 a.m. .. Passed Gravesend.
6 a.m. .. Blowing very hard, with heavy sea breaking on the sands; passed the Nore & the Girdler Light Boat down the Prince's Channel at least one hour & half behind our time; 9.30, past the Tongue-light Boat. Noon. As we neared the French Coast there was less wind & little or no sea. 7 p.m. SSE. Came to anchor off Ostend in smooth water.

VICTORIA, J. F. Kruger. London to Edinburgh.

March 30th. 4 a.m. SE. Fresh breeze.
Noon. SE. Lat. 53.43. Long. 1.33 E. A gale continuing to increase but as we were running before the sea did not feel it so heavy.
6 p.m. We had to put the ship's head to the sea, which at times filled the decks.
31st, 4 a.m. S. Wind veering to S. At this time the gale was at its height.

WATERWITCH, J. Stranack. In Hull Harbour.

March 29th, Midnight. SSE. Gale commenced.
30th, S Moderating.
31st, 9 a.m. Left Hull for London. The weather had previously been so severe I could not leave till now. Noon. Moderate.

EARL OF ABERDEEN, Danl. Mearns. London to Aberdeen.

March 30th, 11.30 ESE. Left London.
4.25 Passed the Nore Light Vessel. Blowing strong & gale increasing.
7 p.m. Passed the Sunk Light Vessel. From this time till the 31st,
2.45 the gale was at its height, accompanied with heavy showers of sleet and high sea. Very dark and dismal.
31st, 2.45 SE. At this time passed the New-cup Light ship off Yarmouth. After this the weather was less boisterous.
April 1st. 6,30. Arrived at Aberdeen.

VIVID, D. Robinson, London to Hull.

March 29th. 8 a.m. ESE. Fresh breeze. Left London. Breeze increasing towards evening. 11 p.m. SE Off the Cockle Light ship.
30th, 1 a.m. Abreast of Cromer, blowing a gale.
6,15 Passed the Spurn Point Do. weather. 8,15 Arrived at Hull.

CITY OF HAMBURGH, Wm. Wade.

March 29th. SE, Strong breezes. Lying at Newcastle.
30th. 4 a.m. Left Newcastle.
5.45 SSE Blowing a very strong breeze, crossed Shields bar; as we proceeded to the South the gale increased.
Noon. Blew very hatd, sea running like a mountain.
5 p.m. The gale so heavy that I should have returned to the Harbour, but falling in with a large fleet of colliers bound to the Harbour, I preferred contending with the gale, to the evil consequences of attempting to take the harbour amongst them.
8 p.m. Gale raging at a most fearful height. Hartlepool bore WbyN, about three leagues distant.
Midnt. Weather continuing the same. Sea running like a mountain, and our noble ship labouring most dreadfully, and making very little progress. All this time wind SSE.
31st, 3 a.m. Wind and sea continuing with unabating violence; bore away for Shields harbour.
9 a.m. Reached it in safety.
Noon. Gale still raging, but from this time began to abate.

Midnt. SSE Much more moderate.
April 1st. .. Left the harbour in the morning.
2nd. .. Became calm and foggy. Wind shifted to W.

ADELAIDE, Jas. M. Brown. Leith to London.

March 30th. 5 p.m. Left Leith for London, but found the gale so heavy on
7 p.m. SEbyS arriving in Aberlady Bay, I was obliged to anchor.
10 p.m. SSE Wind veering and blowing very heavily.
31st, 4 a.m. Moderated a little, the worst part being now over.
11 a.m. Weather being more moderate, got under weigh.
10 p.m. S½E More moderate. Abreast of the Fern Islands.
The remainder of the passage had it light.

CITY OF LONDON, John Cargill. In Aberdeen Harbour.

March 29th. SSW Moderate breeze; cloudy sky.
30th, a.m. S Increasing in strength.
2 p.m. S The weather looked so threatening that I remained in harbour instead of going to sea.
6 p.m. Blowing a gale, with rain.
Midnt. Do. weather.
31st, a.m. Weather moderated considerably, and wind shifted to
SSE; sea running heavily on the bar.
April 1st, Proceeded to sea.

From Mr. James Bremner, of Wick, Caithness.

March 30th, Having occasion to take a passage to the Orkneys, I embarked in the QUEEN Steamer.

4 a.m. The wind blew fresh from SE. 7 a.m. Left Ackergill Bay, heavy sea on.

8 a.m: Wind increased to a gale. 9 a.m. A perfect hurricane: our course being now to Copmanshaw Island, with a tremendous sea got up, and a strong flood tide coming through the Pentland Firth, we kept her head to the East, with the sea and wind on starboard bow; and although the Queen is 700 tons register, we had sometimes 30 tons of water on deck, and were obliged to unship the lee gangways to get clear of the water.

April 1st, The gale continued from 9 a.m. of the 30th, until 2 p.m. of this day; hardly has it ever been known that so heavy a gale continued so long.

SIR Wm. JOLIFFE. London to Havre.

March 30th. Up to Midnight it blew a gale at ESE, and then began to moderate.
31st, 8 a.m. Left London. Light breezes at E.
Noon. Off the Nore. Dead calm with rain.
1 p.m. S Thick with rain.
3 p.m. E Cleared off. Force of wind 5 miles per hour.
Midnt. Gradually increasing to a strong breeze, force 18 miles per hour, as I proceeded to the Westward. N.B. Off the North Foreland there was much swell, but to the Westward of Dungeness the water quite smooth.

ROSCOMMON, Robert Williams. Harlingen to London.

March 30th. SE Very strong breeze. Left Harlingen.
3.30 p.m. After passing the Texel the wind increased; blew a fresh gale.
Midnt. SSE The wind changed and gradually increased.
31st. Noon. By this time we entered the river Thames, and it was comparatively moderate.

BATAVIER, William Smith. London to Rotterdam.

March 31st, a.m. | SE. | Off Iron-gate wharf. Fresh breezes. Squally weather.
Noon. | Dark and foggy.
5 p.m. After passing the Nore had fine weather with light winds.

RHINE, Rotterdam to London.

March 30th. SE. Stiff breeze and cloudy.
Noon. Proceeded on the passage.
3.40 SE Crossed the bar. Strong wind; made all sail.
5 p.m. Left the west end of Goree, bearing SEbyS, distance 10 miles.
11.20 Saw the N. Foreland, bearing WSW. Made for the Tongue.
Midnt. SEbyS. Strong winds.
31st. SE Stiff breezes and cloudy.
1.10 Passed the Tongue. Handed all sail.
3.50 Ditto weather. Passed the Nore.
6.30 Off Gravesend.
9.40 Arrived at Wharf.

———— Thomas Collyer, Rotterdam to London.

March 30th, 5 a,m. E. Light breezes, fine weather. Left Rotterdam.
10,15 Cleared at Helvoetsluys.
11 a.m. Passed the outer buoy of Goree.
Noon. SE. Wind fresh, and cloudy weather.
2 p.m. Do. weather; wind strong,
6 p.m. Abreast of the Galloper Light ship, blowing very hard, with a heavy sea. Ship rolling heavily.
9 p.m. ESE. Passed the Sunk. Blowing very hard, and looking very black to the Westward.
10,45 p.m. Passed the Middle-light ship.
Midnight. Strong winds and cloudy weather.

SIR ROBERT PEEL, John Boxer. London to Dunkirk.

March 30th. 1 p.m. Fresh gales. Left London.
6.40 Strong gales and squally. Passed the Nore.
9.13 Flood tide made, and wind so strong with head sea, came to anchor in 4 fathoms under the Pan Sand.
Midnt. Do. weather.
31st. 4 a.m. Weighed anchor and proceeded down the Princes Channel.
5,30 Observed a wreck on the Tongue sand.
6 a.m. Still blowing strong, with heavy sea.
10 a.m. More moderate.
Noon. Light breezes and clear.

3 p.m. Arrived at Dunkirk. Latter part fine weather. Wind SEbyE

N.B, I consider this a strong gale, not a heavy gale the weather during the night generally thick and hazy, and such as is frequently encountered during the winter, in these seas. J. B,)

SOHO, G. F. Cullen. Antwerp to London.

March 31st, 11 a.m. ENE. Strong wind. Left Antwerp.
4 p.m. Passed Flushing. All sail set.
6 p.m. ENE. Moderate. Passed the outer buoy of the Inner Channel.
11 p.m. Easterly light wind. N Foreland-light ship WNW 6 leagues.
April 1st. 1.10 a,m. Passed the Tongue-light ship. Wind light, with swell from NE.

NB. The strongest wind during the passage was on leaving Antwerp, but it was by no means a gale.

LONDON MERCHANT, E. Harty. London to Newcastle.

March 30th. 8 p.m. SE. Strong wind. Left Hore's Wharf, Wapping.
11,30 Do, weather. Pilot left us at Gravesend.
31st, a.m, SE. Strong wind and clear weather.
2,25 Passed the Nore-light ship.
4 a.m. Set the fore & aft sails single reefed.
5,50 Passed Sunk Light Ship.
7,30 Abreast of Orford Ness. Set the fore-topsail single-reefed. Heavy sea from the SE.
p.m. 40, S. Fresh winds. Heavy sea on. Passed the Cockle-light ship.
5,50 Passed the Dudgeon-light ship.
Midnt. Squally with rain.
April 1st. a.m. S. Fresh winds ; thick fog.
9,30 Abreast of Flamborough Head.
9,30 Crossed Shields bar.

GAZELLE, James Main. Hull to Antwerp.

March 31st. 2 a.m. ESE. Strong gales.
8.45 Heavy gales veering from S to SSE. Left Hull.
Noon. Strong gales, with rain at intervals.
6 p.m. Do. gales, with high sea. Off the Dudgeon Light.
Midnt. SSE. Passed the New-cup Light ship. Rather more moderate.
April 1st. SSE. Strong gales and clear weather.
8 a.m. Do. gales with a high sea.
Noon. More moderate and cloudy weather.
3 p.m. Off West Cappel.
4 p.m. S. Strong gales. Took a pilot on board off Flushing, and proceeded up the river Scheldt.
Midnt. Strong gales and rainy weather. Came to anchor at Bath Fort.
2nd. SSE. Weighed and proceeded up the river.
6 a.m. Arrived and moored at Antwerp.

APOLLO, W. H. Smith. In Amsterdam Harbour.

March 29th. p.m, E. Blew a strong breeze.
30th, A perfect hurricane.
31st, a.m. Became more moderate.

COUNTESS OF LONSDALE, at Hamburgh.

March 29th. 2 a.m. NW. Fresh breezes. Arrived in Hamburgh.
At night wind changed to ESE.
30th. ESE. Fresh breezes.
31st. ESE. Strong breezes.
April 1st. ESE. Strong breezes.
2nd. a.m. ESE. Fresh breezes.
p.m. SE. Do.
3rd. a.m. SSE. Fresh breezes.
6.30 SSE. Fresh breezes, with rain; all appearance of W wind setting in. Left Hamburgh.
1.30 p.m. SW. Passed the outer-light vessel of the Elbe with squalls and rain.

Abstract of Log of Brig VULTURE, Capt. Wm. Harris.
From London to Copenhagen.
(Communicated by Messrs. Newman and Hunt.)

	AM.	PM.	
March 31at.	SSE		Calm and fine.
April 1st,	SSE	SSE	Light breezes and fine.
2nd,	SE	ESE	Fresh breeze and cloudy. Noon. Wingo Light EbyS 6 miles. Midnight. Strong wind.
3rd,	ESE	ESE	Thick and dirty weather. Brisk gales.
4th,	SE	SE	Do. Do.
5th,	SE	SE	Do. Strong wind.

Abrtract of Log of Brig SIREN, Capt. Isaac Catchpole.
From Falmouth to Stettin,
(Communicated by Messrs. Newman and Hunt.)

	AM.	PM.		Lat.	Long. E.
March 31st,			Light Easterly winds and fine.	57,50	10,00
April 1st.	ESE	ESE	Fine. Scaw Light-house WSW 14 miles.		
2nd,	SE	NE	Fine		
3rd,	SE	ESE	Strong winds & squally with snow.	57,15	11,46
4th,	SEbyE	ESE	Squally. Westerly current.	57, 6	12, 3
5th,	SE	SEbyE	Strong winds and rain.	56,42	12, 1

The continuation of this Storm will be found in the Light-House Tables at the conclusion of Storm E.

§ V.

Storm B.

London and New York Liner MARGARET EVANS, E. G. Tinker, Commander.
From New York to London.

	Lat.	Long.	Bar.	AM.	Noon.	P.M.	
March 29th,	1 pm. Left Sandyhook.				W	W	Light winds and fine.
30th,	40,20	71,25	30,00	WNW	WNW	W	Light winds & fine.
31st,	39,50	70,00	30,00	Calm.	NEbyE	NE	Calm Very light

Abstract from Log of Brig VELOCITY, Capt. Holmes.
From Oporto to Philadelphia.
(Communicated by Messrs. Newman and Hunt.)

	Date	AM	PM	Weather	Lat	Long	Remarks.
	March 26th.	W	S.	Fine	32,05	55,49	Light airs and fine
	27th.	SbyE	SW	Fresh	31,53	57,09	Fresh wind and showery
	28th.	SW	SW	Fresh	32,19	59,20	Fresh wind throughout
	29th.	SW	NW	Fine.	32.46	61,11	
	30th.	NE	SE	Light	32,22	61,43	Light airs and calm
Sun.	31st.	SE	WSW	Fresh	32,30	63,24	Fresh wind throughout

London & New York Liner PRINCE ALBERT, F. R. Meyer, Commander.
London to New York.

Wednesday, March 27th.

Weather calm and fine. Noon. Lat. 43.40. Long. 53.10.

Thursday, March 28th.

a.m. Do. weather. Noon. Lat. 43.00 Long. 54.25 p.m, Fresh winds SE, and stormy appearances; thick rain. Midnight. Gale increasing. Course WNW

Friday, March 29th.

6 a.m. Wore ship to S. Took in fore-topsail & staysail. Wind SE. Making good weather, and not taking in any water. Noon. Sun obscure. Lat. by DR. 42.45. Long. by Acct. 56,20. True course of ship for next 24 hours SbyE. p.m. Continuation of gale and heavy rain, with squalls. 5 p.m. Wind shifted from SE round to NW; ship's head still SbyE. [Viva voce by mate; Under such circumstances always best to come round on starboard tack, which meets the sea better.] Midnight. Moderating.

(Log of Prince Albert continued.)

Saturday, March 30th.

Noon. Lat. 45,05. Long. 56,00 p.m. Gale still blowing from NW, & rain with squalls. Course SW. Midnight. Finer weather. Course WSW.

Sunday, March 31st

3 a.m. Set fore and aft sails. 10 a.m. A long sea rolling SE. Noon. Lat. 41,09. Long. 56,20 p.m. Light winds hauling N and E. ———Mate,

QUEEN OF THE WEST, F. Hallett.

Liverpool to New York.

March 28th.	Lat, 42,47	Long. 48,24
29th,	43,03	50,27
30th,	44,14	50,56
31st,	43,53	50,20
April 1st,	43,17	52,14

Capt. Hallet states that he experienced variable Westerly winds until the 30th, when he had a hard gale from WSW to W.

London and New York Liner, WELLINGTON, Charles Chadwick, Commander.

New York to London.

WIND.

6 a.m. Noon. 6 p.m. Midn.

Wednesday, March 27th.

Noon. Lat. 41.08 Long DR 54.00

Midnight. Light baffling breezes.

Thursday, March 28th.

SW SW SW Strong breezes SW with rain. Noon. Lat. by DR. 42,02 Long. 53,46 p.m. Strong breezes SW with rain. 11 p.m. Wind increasing; took in sail.

Friday, March 29th.

SE WSW WSW Strong breeze gradually increasing with heavy squalls of rain. 2 am, Wind hauled to SW [!] and increased rapidly up to noon. Strong gales WSW, ship labouring heavily and shipping much water. Noon. Lat. DR 42,47 Long. 51,22 p.m. Strong gales.

Saturday, March 30th

WSW WSW WSW WSW Strong gales with very heavy squalls, which moderated towards noon, when we turned reef out of main topsail, and set mizen topsail. At Noon. Strong gales WSW ; ship labouring heavily and shipping much water. Lat. Obsd. 43,01 Long. DR 44.11

2 p.m. Took in 2nd reef in main topsail; wind rapidly increasing in heavy squalls. 5 p.m. Set main spanker, and hove the ship to [On starboard tack C. C.] blowing a tremendous gale of wind from WSW ; ship lay bowing heavily, and shipping a tremendous quantity of water. Middle part [i e. about midnight] weather moderated.

Sunday, March 31st.

NW NW N Strong gale from NW ; 5 am. set foresail and continued on. Ditto weather up to Noon, with mist & rain, Lat. by Obsn. 43,18 Long. DR 43,26 pm Squally. 2 pm. Moderated. 6 p.m. Wind N. About midnight made sail.

London and New York Liner **NORTHUMBERLAND, J. M. Lord, Commander.**
London to New York.

	Course.	Wind.	Bar.	Th.

Thursday, March 28th.

Noon. Lat Obsd. 44.29. Long. Chr. 43.31
Midnight, Fine and clear.

Friday, March 29th.

9 AM.	WNW	SE		
Noon.			29.20	55
PM.		SW		
3	NNW	W		
6	N	WNW		
7 drift	NEbyN			

am. Fine and clear. 4 am. Calm. Made all sail 9 am. Fresh breeze, with rain. Noon. Lat. 43,46 Obsd. Long. 44,40 Chr. Barometer falling; blows fresh. and light rain. pm. A strong wind and rain 6 pm. Clear weather, wind increases to a gale. Midnight. Ship laying under a close-reefed main topsail, spanker, main spencer, fore and main stay sails [on larboard tack. Ed.]

Saturday, March 30th.

Noon.			28.70	47
PM.	NEbyN	WNW		
4			28.45	

1 am. Ship labouring heavily, and making considerable water, wind blows tremendously, and a very high sea on. 8 am. Do. do.
Noon. Wind still increasing shipped a heavy sea over larboard gangway, which carried away the bulwarks around the poop, and filled the lee quarter boat, and unshipped the weather one. Lat. 44,46 Long. 44,20 Bar. falling 28,7 pm. Terrific gale and a very high sea. 4 pm. Decks constantly flooded with water. Bar. stands 28,45 9 p m. Shipped a very heavy sea, carrying away the lee bulwarks; sweeping the top of the house, filling the cabin; got considerable water down between decks, all hands at work bailing out the water, and securing the boats. Midnight. Ship rolling heavily, wind more moderate.

Sunday, March 31st.

9 AM.	W	NNW		
Noon.			28.50	49

8 am. Do. Wore ship. Noon. Lat. 45,13 Obsd. Long. 44,13 Chr. Blows hard from NNW. pm. Strong wind and cloudy weather. 1 pm. Made sail. Midnight. Weather looks squally. Bar. stands at 29,5

Monday, April 1st.

4 a.m. Made all sail. 8 a.m. Nearly calm.

S L Spencer, Mate.

HERMANN, Steam ship. Bremen to New York.

Friday, March 29th.

Noon. Lat. 46.00 Long. 41.00 Bar. 29,46 pm. Moderate breeze SW.
8 pm. Wind shifted back to NW. Midnight. Strong gale. Bar. 29,50.

Saturday, March 30th.

am. Heavy gale, with hail and squalls. Noon. Lat. 45,52 Long. 45,25 Bar. 28,90 pm. Strong gale from W; hail and rain. Midnight. Bar. 28,82 Strong gale with tremendous squalls.

(Log of Hermann continued.)

Sunday, March 31st

am. More moderate. Noon. Lat. 45,32 Long. 45,30 Bar. 29,30. pm. Strong breeze from N. About Midnight moderate. Bar. 29,30

Monday, April 1st.

am. Clear & pleasant light airs from N. Noon. Lat. 44,24 Long. 46.36 Bar. 29,55

———— Mate.

B. and N. American R. M. St Packet EUROPA.

Liverpool to Boston, U. S.

(Communicated by Messrs. D. & C. M'Iver, of Liverpool.)

		Lat.	Long.	Bar.	Wind.	Force.
Friday, March 29th,	8 a m.			29,30		
	Noon.	49.15	37.02		N.	Light.
	6 pm.				SE	Fresh
	8 pm.			29,10		
	Midnight				S	Squally.
Saturday, March 30th.	6 am.				W	Fresh gales
	8 am.			28,80		
	Noon.	48,29	41,28		WbyN	Fresh gales
	6 pm.				WNW	More mod.
	8 pm.			28,90		
	Midnight				NWbyW	Str; & Squ.
Sunday, March 31st,	6 am.				NNW	Strong
	8 am.			30,10		
	Noon.	46,55	46.21		NNW	Fresh
	6 pm.				WNW	Moderate
	8 pm.			30,10		
	Midnight				NWbyN	Moderate.
Monday, April 1st,	6 am.					Calm
	Noon.	44,47	51,20		N	Light

Abstract Log of the Ship HENDRIK HUDSON, I. Pratt, Commander.

Bound from New York to London.

Times of Observation A. M. Noon. P. M.

	Bar. 9 a, m,	Ther 9 a. m Air.	Wat.	Lat. Noon	Lon. Noon	Wind	Weather
Mar. 29,				44 59	31,30	NbyE	Less wind ; heavy sea from
						NE	Moderate & fine, [NW
Mar. 30,	29,00	54	56			NW	Light winds and cloudy,
				45 29	28,58	SW	Strong winds, [thunder.
						W	Heavy squalls, lightning and
Sun. 31,	28,65	58	58			W	Ditto ditto
				46 21	25,17	SW	Ditto ditto
						NW	Strong winds and rain,
April 1,	28,60	58	56			NW	Light winds and rain,
				46 57	22,54	NNE	Moderate rain, [from NW
						NW	Heavy squalls & heavy sea
2,	28,70	56	56			WNW	Heavy squalls,
				47 54	18,00	WSW	Ditto ditto

J Batt, Mate.

SEA PARK. Thos. Humphris, Commander.

Calcutta to England.

Time. Course Wind. Bar. Th.

Saturday, March 30th.

Noon. NbyE WbyN 30.00 66 Noon. Fresh breeze and cloudy weather. Lat.
PM. WNWly Obsd. 35,20 Long. Chr. 33,20. pm. Steady strong breeze and fine. 8. Increasing breezes. Midnight. Strong breezes and squally.

Sunday, March 31st.

am Strong breezes. 5. Increasing to a gale; in main-top gallant sail & spanker; ship lurching violently, & shipping whole seas from end to end; In 2nd & 3rd reefs foretopsail 7. Weather threatening and hard gale; Bar. falling rapidly; sea running high, and breaking on board in green seas over the quarter; bore away to relieve ship & reduced sail to treble reefed topsails & foresail. Noon. Increasing gale & high sea, ship la-
Noon. 29.50 bouring heavily, and shipping large quantities of water. Lat. (Indif.Obs.) 38.30 Long. Chr. 33.00
P.M. A very heavy gale of wind with hail storms, accompanied with terrific squalls, the sea running to a surprising height, and burying the ship from end to end. Bore away before the sea, and ran between the islands to relieve the ship from the heavy sea breaking over the quarters. Midnight Blowing a hard gale, & a tremendous sea running.

Monday, April 1st,

5AM. ENE 29.80 4 am. No alteration, 6. More moderate, squalls
Noon. 29.30 64 less severe.

ONWARD resumed. At St. Michaels.

Saturday, March 30th. WbyS. Latter part of day strong wind at times.

Sunday, March 31st. W½S - WSW. First and middle part. Strong winds, with heavy squalls and rains. 5 p.m. Slipped and proceeded to sea. Midnight. Strong gales and very heavy sea; the ship labouring very heavily.

Monday, April 1st. WbyS. These 24 hours strong winds, and very thick, with rain. At Noon. St. Michaels bore NE, distance 7 miles. Midnt. Strong gales.

Tuesday, April 2nd. Variable WNW. These 24 hours strong winds and very unsettled weather. At Midnight, more moderate.

Log of MADAGASCAR, from London to Madras.

(Communicated by Messrs. R. & H.Greeu.)

			Bar.	Th.	Lat.	Long.
March 31st,	Moderate and fine.	NNE	29,90	76	12,05	19.43
April 1st.	Light Trade, and fine.	NNE				
NOON.	Moderate and Fine.	NE	29.85	76	9.33	19.01
PM.	Light Variable airs & Calms	NNE				
April 2nd.	Do.	NNE	29·87	79	7.39	19.50

Brig BRILLIANT, at Madeira.

(Communicated by Capt. J. B. Caldbeck)

30th. a. m. Light winds at WSW and cloudy. Noon and p m. Strong winds and clear.

31st. Strong winds at NW & W, and cloudy these 24 hours.

April 1st, a. m, Strong WSW winds and cloudy, Noon and p. m. Do. weather.

2nd, a. m, Strong gale WSW and squally, attended with rain at times, Noon. Do. weather. p. m, More moderate and cloudy.

3rd, a. m, Light winds at W and NW and cloudy,

RANDOLPH, from Calcutta to England.

(Communicated by Messrs. D. Dunbar & Sons.)

	Course.	Wind.	Bar.	Th.	
					Saturday, March 30th.
					Noon. Lat. Obsd. 37,9 Long. DR. 19,3. Midnt.
7pm.	NEbyE	WSW			Increasing breeze and cloudy misty weather.
					Sunday, March 31st.
4am.			29.95		1 a.m. Moderate and thick misty weather. 8 am
					Do. do. with light thick rain; the unsettled state
					of the weather prevented performance of divine
Noon.			29.85	69	service. Noon. Do. weather. Sun obscure. Lat.
					Acct. 39,28 N Long. Acct. 17,13 W 1 p.m.
					Moderate breeze with light mist. 5 p.m. Heavy
					rain; in top-gallant studsail and light sails. 6 p.m.
					Light breeze with continual rain. 8 p.m. Do.
					weather, with dirty appearance; in topgallant-sails,
10pm.			29.58		reefed fore and mizen topsails. Midnt. Increasing
					breeze and dirty weather.
					Monday, April 1st.
3am.			29.44		1 a.m. Fresh breeze, with heavy squalls of wind
4		W			and rain; double-reefed maintopsail. 4 a.m. Hard
Noon.			29.26		gale, with heavy sea, shipping a great deal of
1pm.	NE	WNW			water. Noon. Do. weather. Lat. Obsd. 41,33 N.
6			29.17		Long. Chr. 14,48 W 1 p.m. Strong gale, with
8			29.15		heavy sea, ship rolling heavily, and shipping a
Midnt.		NWbyW			great deal of water. Midnight. Do. weather.
					Tuesday, April 2nd.
4am.			29.25		1 a.m. Strong gale, and squally at times. 6 a.m.
7			29.30		Finer appearance, set mainsail and jib. 8 a.m.
					Strong breeze. with passing squalls, out one reef
Noon.			29.42		topsail. Noon. Strong breezs, with finer appearance.
1pm.	NEbyE	WNW			Lat by Obsn. 44,14 Long. by Chr. 12,53
					p m. Strong breeze & fine weather; out reefs, set
5		W			topgallant sails. 4. Less wind. 6 p.m. Moderate
8		WSW	29.53		and cloudy, with dirty appearance. 8 p.m. Do.
Midnt.			29.49		weather; ship rolling heavily. Towards Midnight
					Increasing breeze.
					Wednesday, April 3rd.
					Noon. Lat. 46,51 Long. 10,23.

H. M. Sloop ALERT.

Coast of Africa to Plymouth.

							Lat.		Long.	
Time.	Course.	Wind.	Force.	Weather.	Bar.	Th.	DR	Obs.	DR	Chro.
				Sunday, March 31st.						
Noon.	NE	swbyw	5	OGD	29,99	63	40,27	00,00	18,22	18, 2
1 pm.	..	wsw	..	OGD						
4			6				7,10 In studding sails and			
6				CMR			trimmed ; split main royal.			
8			7				8,30 In Top-gallant sails.			
11	..	..	7	CM			10,40 In 2nd reefs of topsails.			
Midnt.	ENE	WNW	8	..	29,28	62				
				Monday, April 1st.						
1 am.	NE	..	7	CQP						
3	..	..	..	CG						
7	..	..	..	CQP			4,30 In 3rd reefs of topsails.			
8	..	w	6 to	..			9,30 Down main royal yard.			
10	..	..	7	OGP						
Noon.	..	..	..	BCQ	29,06	60	43,34	43,10	16,16	16,25
1 pm.	..	wbys	7	BCQ						
4	ENE	..	..	CQP			4,30 p.m. Set FT stay-sail			
7	..	w	6	QP			9,30 Out 3rd reef of topsails			
10	..	..	..	BCV						
				Tuesday, April 2nd.						
1 am.	..	..	7	BCQ						
6	..	..	..	OGQP						
9	..	..	..	BCQ						
Noon,	..	..	6	BCV	29,33	60	45,39	45,23	13,05	12,56
1 pm.	..	..	6	BC			2,15 p.m. Out 2nd reef			
6	..	wbys	..	BCQ			of topsails			

R. M. W. I. St. P. Co. St. Ship TEVIOT.

St. Thomas to Southampton.

Saturday,, March 30th.

10 a.m. Wind veering to SW, thick cloudy weather, with drizzling rain. Noon. Lat. 40,15 Long. 25,41 Bar. 29,87 4 p.m. Moderate breezes all this time, wind WNW. Bar. 29,32 8 p.m. Westerly. Bar. 29,32

Sunday, March 31st.

4 a.m. Do. wind and weather. Bar. 29,24 6 a.m. Squalls, with heavy rain. Noon. 42,17 Long. 21,26 Bar. 29,19 4 p.m. Bar. 28,99 8 p.m. Bar. 28,84. Midnt. Bar. 28,77 Moderate and variable breezes at W NW and at SW all this time.

Monday, April 1st.

4 a m. Bar. 28,73 5 a.m. Wind W. Heavy swell from NW. Noon. Lat. 44,20 Long. 16,41 Bar. 28,67 5 p.m. Bar, 28,67. Threatening appearance in NW. 9 p.m. Cloudy, with rain. Midnt. Bar. 28,69 PM. Fresh & moderate Wly breezes.

Tuesday, April 2nd.

Bar. slowly rising all day. 1 am. Fresh breeze NW. 4 am W. 6 a.m. Squally, with heavy swell from N,W. Noon. Lat. 46,22 Long. 12,10 Bar. 28,94 Moderate breeze and fine ; heavy sea running. Midnight. Bar 29,10.

Wednesday, April 3rd.

4 a.m. Mod. SW breeze, cloudy, & rain. Bar. 29,11 Noon. Lat. 48,42 Long. 7,25

H. M. Sloop COLUMBINE, Capt. J. C. Dalrymple Hay, R.N.

China to Plymouth.

Saturday, March 30th.

Noon. Lat. 41,53 Long. 20,12 2 p.m. Bar. 29,37 Fresh breeze WNW. Heavy NWly sea, blue sky and cloudy: from this time strong breezes at W to SW, with squalls and heavy sea, and Bar. falling steadily.

Sunday, March 31st.

Noon. Lat. 43,56 Long. 17,20 8 p.m. Bar. 28,98 Wind veering to SSW and S. 11 p.m. Bar. 28,84 Moderate gale SSE. A very dirty night.

Monday, April 1st.

2 a.m. Bar. 28,50 Moderate gale S. 5 a.m. Very heavy gale WNW with squalls. Bar. 28,53. 8 a.m. Bar. 28,54. Strong gale, with squalls, sky clearing; from this time the weather improving, with Bar. rising slowly, and wind W to SW. Noon. Lat. 45,50 Long. 14,4.

Tuesday, April 2nd.

a.m. Do. do. 5 a.m, Wind veering a little to N of W. 11 a.m. Bar. 28,73. Noon. Lat. 47,39 Long. 10,37 2 p.m. Bar. 28,88 Still strong breezes with squalls from W 11 p.m Bar. 29,03.

Wednesday, April 3rd.

2 a.m. Bar. 29,05 Moderate gales from WSW. Sky blue and cloudy. Noon. Lat. 49,34 Long. 6,17.

Thos. Kerr, Acting Master.

B B GREENE, Mauritius to London.

(Communicated by Messrs. H. D. and Jas. Blyth and Greene.)

Saturday, March 30th. a.m. Bar. 29,30 Steady breeze SW. Heavy swell from N and W. 6 a.m. Bar. 29,20 Noon. Lat. 43,16 Long. 26,24 Bar. 29,10 6 p.m. Bar. 29 Steady winds and drizzling. 11 p.m. Vivid thunder and lightning. Strong wind Westerly; took in sails as required. Midnight. Bar. 29.00.

Sunday, March 31st. a.m. More moderate. Made all possible sail. 6 a.m. Bar. 28,80 Noon. Lat. 45.56 Long. 24,6 Bar. 28,80 p.m. Steady Westerly wind, with rain. 6 p.m. 28,75 Midnight. Variable breezes, with passing showers. Bar. 28,70.

Monday, April 1st. a.m. Variable light winds from Northward. 6 a.m. Bar. 28,60 Noon. Lat. 47,15 Long. 22,4 Bar. 28.65 6 p.m. Bar. 28,75. Midnt. Stead NWly breeze. Bar. 28,80

Tuesday, April 2nd. a.m. Squally, with passing showers, 6 a.m. Bar. 28,70 Noon. Lat. 49,21 Long. 18,4 Bar. 28,70 p.m. Fine clear weather. 6 pm. Bar. 28.65 Midnight. Bar. 28,65.

Abstract Log of Brig HARMONY, Barbadoes to Cork. (Nautical Time.)

Saturday, March 30th. Fresh breeze from NW throughout. Lat. 46.15 Long. by Chron. 22.60

Sunday, March 31st, Lat. 47,46 Long. 19,56. Variable winds from the NW to S, and squally weather

Monday, April 1st, Lat. by Acct. 49,04 Long. by Acct. 15,58 First and middle part, wind W and squally. Latter part wind from S to NE

Tuesday, April 2nd, Lat. by Obsd. 49.50 Long. by Chron. 14,17 Fresh breeze from WNW to NW, and squally weather.

Log of the Ship WELLESLEY, from St. Helena to London.

(Communicated by Messrs. R. & H. Green.)

	Course.	Wind.	Bar.	
				Saturday, March 30th
Noon.	EbyN	NWly	29,32	Noon. Lat. 45,12 Long. 21,48 Increasing wind
6 pm.		WSW		and cloudy. 11 p.m. Fresh and squally.
10 pm.		SSW		
				Sunday, March 31st.
7 am.		SW		5 am. Strong breeze; thick with rain. 8. Mode-
Noon.		SSW	29,12	rate and fine. 9. Passing squalls, with rain. Noon.
7 pm.	ESE			Lat. 46,59 Long. 18,40 p.m. Threatening ap-
				pearance to NW. 11 pm. Lightning at NW.
				Monday, April 1st.
1 am.		SE		am. Light breezes and constant rain, with heavy
2 am.		SW		long swell. 7. Drift one mile per hour. Clouds
3 am.		W	28,75	lowering without any motion. 9. Weather clear-
5. Head to SW		NWtoNNW		ing up; thick and dirty to NE. Noon. Breeze
Noon.	EbyS	WNW	28.60	freshening gradually; Weather still looking fine.
				Lat. 47,25 Long. 16,35 pm. Breeze freshening
11 p.m		NW		steadily. 6 pm. Constant rain. Midnight. Strong
				breeze and squally.
				Tuesday, April 2nd.
				am. Sharp gales; heavy rain. Confused sea on.
				5 am. Weather clearing up; heavy Westerly swell.
Noon,	E	NW	28,90	Noon. Fresh breeze; fine & passing squalls. Lat.
				48,08 Long. 13,33. pm. Moderate breezes & fine.
				Wednesday, April 3rd.
				Lat. 49,12 Long. 9,40.

CAMPERDOWN, from Calcutta to England.

(Communicated by Messrs. D. Dunbar & Sons.)

Time.	Course.	Wind.	Bar.	Th.	
					Saturday, March 30th.
Noon.	EbyN	W	29,90		Noon. Lat- Obsd. 46,46 N Long. Chr. 15.25 W
					p.m. Fresh breezes and hazy, with a high con-
					fused sea; ship rolling. 4 p.m. Squally, with rain.
					Midnight. Do. weather.
					Sunday, March 31st.
am.		WbyS			a,m. Fresh breezes and cloudy, with a high confu-
3		SW			sed sea; ship rolling heavily. 5 a.m. Set the star-
7		SSW			board main topmast studding sail. 8 a.m. In all
8		S			lee studding sails. 9 a.m. In lower studding sails.
Noon.			29.25	57	Noon. Squally, with drizzling and dark cloudy
					weather; in all studding sails, royals, fore-jib, 1st
					reef of the topsails. Lat. Obsd. 48,22 N. Long.
					Chr. 11,14 W p.m. Strong breezes and squally;
					in topgallant sails, and reefed the driver. 2 p.m.
					In 2nd reef of the mizen topsail. 5,30 p.m. Set
					royals, fore jib, and fore topmast studding sail.
Midnt.		SSW			8 p.m. Moderate breezes and clear. Midnt. Thick
					and cloudy.
					Monday, April 1st.
am.		S			a.m. Strong breezes and hazy; in royals and fore

(Log of Camperdown continued.)

Time.	Course.	Wind.	Bar.	Th.	
3		SSE			topmast studding sail. 4 a.m. Strong breezes and
7		SEbyE			squally, with rain, 8 a.m. Do. weather. Noon.
Noon	W		28.70		Scilly bearing NNE 15 miles. Lat. 50,18 N
pm.	SWbyW	SbyE			p.m. A fresh gale from the Southward, with a
3	WSW				heavy sea; ship labouring heavily at times. 6 pm,
6	SEbyE				Tacked ship. 10 p.m. Tacked. Midnight. Fresh
10	WSW				breezes and squally, with a head sea, ship pitching
11	W				heavily at times.
					Tuesday, April 2nd.
am.		SSW			a,m. Fresh breezes and hazy, with a high confused
3		S			sea. 4 am, Tacked ship to the Eastward. 8 a.m.
5	ESE				Strong breezes and squally, with rain. 11 a.m.
6		SSW			Scilly Rocks in sight on lee beam, bearing ENE.
Noon.			28.70	53	Noon. St. Agnes Light-house NWbyN 11 or 12
3		WSW			miles. Lat, 49,48 N Long. 0,5 W. p.m. Fresh
4	EbyS				breezes and hazy, with a high confused sea. 3 pm.
8		SW			Squally. 3,30 p.m. The Lizard in sight bearing
10		WSW			NEbyE 10 miles. 10 p.m. The Start Light NE¾E
					Wednesday, April 3rd.
am.		SWbyW			a,m. Fresh breezes and cloudy. 3 a.m. Portland
					Light in sight bearing ENE.

LORD PETRE, Mauritius to England.

(Communicated by Messrs. H D & Jas. Blyth & Greene.)

Time.	Crse.	Wind.	Bar.	
				Sunday, March 31st.
Noon	wsw	sbyw	29.15	Noon. Lat. 49,57 Long. 12,7 Cape Clear N 49 E. 133
				miles. 3 pm. Fresh gales and rain; In close reefs, wore to
6 PM.	se	swbyw	29.10	WSW, 6 pm. Wind shifted to SW by W and cleared;
Midnt		ssw	29.00	wore to SE, made more sail. Midt. Light squalls & rain.
				Monday, April 1st.
6 AM.	sw	sse.	28.70	5 am, Wind variable to SSE wore to S. Fresh gale and
Noon.		sse	28.50	rain. 8 am, wind SE. Noon. Strong gale and rain; ship
				under 2 close reefed topsail and staysail. No Obsn. (Lat
2,30 PM		sw		by Acct. 49,41 Long. 11,20. At 2,30 pm. wore to SE
3	se		28.45	Lay to under close reefed main topsail and foretopsail,
6		sw	28.50	From 3 to 5,30 a hurricane of wind; 6, More moderate
Midnt,		ssw	28.60	and clear; 9. Set foretop staysail and foresail. Midnight.
				Fresh gale and squally.
				Tuesday, April 2nd.
AM,		sbyw	28.60	a,m. Fresh gale and small rain; 9.30 Wind shifted to W.
Noon,		w	28.55	Noon. Weather clearing up. Lat. Obs. 49.55 Long 10·37
				Course made good N64E Distance by Log 50 miles, but
				by Obs. only 32, [which indicates a considerable strength
				of storm current beyond what had been allowed for. Ed]
				Midnight. More moderate and cloudy,
				Wednesday, April 3rd.
				am, Moderate and cloudy. Noon. Lat. 49.25 Long. 8.15.

John Middleton, Commander.

Schooner OCEAN, from Jersey to Newfoundland.

(Communicated by C. Lequesne, Esq.)

Sunday, March 31st.

Noon. NW SW Noon. Moderate breeze and cloudy weather, heavy head sea.
PM. WNW Lat. Obsd. 50,08 Long. by Chr. 11,37 p.m. Strong breeze
and cloudy, with small rain at times. 6 p.m. Increasing
breezes and squally. Midnt. Moderate weather.

Monday, April 1st.

10AM. WbyN ESE 6 a.m. Moderate breeze and hazy weather. 10 a.m. Squally
Noon. E with hard rain. Noon. Thick rainy weather and moderate
3PM. SW WNW breezes. Lat. DR. 50,11 Long. DR. 15.02 At 3 p.m. the
wind chopped round to the WNW, with a strong breeze and
11 WbyN hard rain. 11 p.m. Tacked ship to the Northward. Do. wind
and weather.

Tuesday, April 2nd.

2 a.m. Increasing breezes and cloudy; handed fore & main
topgallant sails. 3 a.m. Fresh gales and squally; double-
5AM. SW½W reefed fore & main-topsails. 4,30 Tacked to the Southward
10 SWbyS 8 a.m. Fresh breeze and squally. Noon. Fresh gales and
hard squalls, with rain. Lat. Obsd. 49,07 Long. DR 15,30
PM. NW 6 p.m. Tacked to the Northward. Midnt. Fresh gale and
6 NNW thick weather, with hard rain.

Wednesday, April 3rd.

4 a.m. More moderate. Noon. Lat. Obsd. 49,00 Long. DR
17,06.

Abstract Log of Schooner ROLLO, from Jersey to Newfoundland.

[Reduced from Nautical to Civil Time. Ed.]

(Communicated by C. Lequesne, Esq.)

Time.	Lat.	Long.	Wind.	Weather.
Mar. 31st.	50,26	16,51	SW to	Fresh breeze and squally, with rain.
April 1st,	50,10	19,28	SSE to	Light winds and rainy weather.
2nd,	49, 5	21,33	NW	a.m. Fresh breeze. Noon. and p.m. Fresh gales, with rain at times.
3rd,	48,52	23,56	Vble-NNE	with rain at times.

Log of H. M. Ship* GRIFFON.

From Pernambuco to England.

							Lat.		Long.	
Time.	Course.	Wind.	Force.	Weather.	Bar.	Th.	DR	Obs.	DR	Chro.
				Sunday, March 31st.						
Noon.	SE	SSW	6	BC	28.97	62	51,33	51,45	14.25	14, 0
1 P.M	..	SW	5	OC						
3	ESE	S	6							
6	SW½W	SSE	4	CQ	28,87	66		8,30 taken aback.		
9	SSE	SW	3	C				Braced round & set reefed		
Midnt.	SEbyS	SSW	3	BC	28,90	60		main staysail.		

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* At Page xxi. the GRIFFON was inadvertently described as a Steamer.

(Log of Griffon continued.)

Time.	Course.	Wind.	Force.	Weather.	Bar.	Th.	Lat. DR	Lat. Obs.	Long. DR	Long. Chro.	
Monday, April 1st.											
3 A.M.	WSW	S									
5	SWbyW	SbyE	4	c							
6	SW	SSE	4	cm	28,78	66					In 2nd reef of fore topsail,
10	S½E	SSE	5								and 3rd of mainsail.
11	..	..	8	cr							In 4th reef of mainsail.
Noon.	SbyW	SEly	10	..	28,41	62	50,46	None	12,53	13,16	
1 P.M.	SSW		7	cqr							2 down FTG yard & mast.
3		ESE	6								
4	SW	SEbyE	5								
5		SE	5	CQ							
6	W				28,22	66					6,30 Wore.
7	SEbyS	SW	7								
8	Lying to	WSW									
9		SWbyW	8								
Midnt.					28,34	64					
Tuesday, April 2nd.											
1 A,M.		SbyW	8	bc							8. Wore and set double-reefed fore-topsail.
3		SbyE	7	c							
5		SEly	6	bc							8.30 Out 2nd reef of F T
6		SW	5		28,28	64					sail; set fore sail; set close
9	SEbyS	SW		cqr							reefed mainsail.
Noon.			7	cb	28,34	64	50,22	51, 5	12, 5	12,37	
1 P.M.		WbyS	8	c							Current N14E 44 miles
2	SSE	W	7	bc							
6					28,66	68					
8			8	c							Set treble-reefed mainsail
10				bc							
Midnt.					28,86	62					
Wednesday, April 3rd.											
Noon.							49,47	50, 2	9,14	9,17	

H, M. Revenue Cruizer ELIZA, at Broadhaven Bay, Co. Mayo.

Sunday, March 31st.				
4PM.	SE	6	b	Anchored at Broadhaven.
8	S	7	b	
Monday, April 1st.				
4AM.	..	9	b	4 a.m. Let go small bower, and veered on both cables.
Noon.	SbyE	9	b	p.m. Both anchors down ; stress of weather.
8PM.	..	10	b	6 p.m. Veered to 60 fathoms on B Bower, and 30 on S
Midnt.	..	10	c	Bower.
Tuesday, April 2nd.				
1AM.	..	10	bq	Both anchors down.
8	..	9	bq	Stress of weather.
1PM.	SSE	9	bq	
Wednesday, April 3rd.				
1AM.	..	9	op	a.m. Sent a boat to Balmullet for stores.
4	S	8	op	
Noon.	SSW	8	op	p.m. Boat returned with some of the stores.

H.M. Revenue Cruizer BADGER, off Castle Townsend, Co. Cork.

	Sunday, March 31st.
SW	AM. Fresh gales and rain, with thick hazy weather and heavy sea.
SW	8 PM. Hard increasing gale and heavy rain.
	Monday, April 1st.
SW to South & S by W	AM. More moderate, with thick hazy weather. At 10 Constant rain and heavy sea. PM. Hard gales, with thick rain, sea breaking across the harbour.
	Tuesday, April 2nd.
SSW	Strong winds and showery, with a heavy sea.
	Wednesday, April 3rd.
SSW to SW	a.m. Strong gales and rain. p.m. Hard gales and rain.

John Carter, Commander.

H.M. Revenue Cruizer AMPHITRITE, in Galway Roads.

Sun. March 31st. p.m. Strong SSEly breezes and cloudy.
Mon. April 1st. a.m. Do. weather. Noon. Squally SSW. p.m. Fresh gales. Midnight. Fresh gales S and squally.
Tues. April 2nd. 8 a.m. Strong breezes SW Noon. Southerly; More moderate. Midnight. Fresh gales SW.

F. Kelly, Commander.

H. M. Revenue Cutter CHANCE, Coast of Mayo.

March 31st, 9PM. Wind backed from SW to SSE.
April 1st, 1AM. SE. Blowing a gale till Midnight; sky overcast, with rain.
2nd, 2AM, Veered to SSE; and blew a strong gale until
3rd, 5AM, when it moderated, but heavy rain continued to fall until 6 p.m

M. Smith, Commander.

Log of H. M. Ship CROCODILE, at Cork.
(Communicated by their Lordships the Commissioners of the Admiralty.)

Time.	Wind.	Force.	Weather.	Bar.	Th.
			Sunday, March 31st.		
1PM.	Vble.				
4	SSE	4	bc		
8	..	..	cm	29,41	50
Midt.	SbyE	..	..		
			Monday, April 1st.		
4AM.	..	5	or		
8	SSE	..	mp	29.21	49
4PM.	SE	6	..		
8	..	..	mqr	28,98	49
			Tuesday, April 2nd.		
4AM.	SE	4	qro		
8	..	..	..	28,82	50
Noon.	..	..	oqpr		
4PM.	Vble.	3	mp		
8	NW	..	..	28,92	54

NAUTILUS, W. A. Davidson, Commander.

From Mauritius to Cork.

(Communicated by Messrs. H D & Jas. Blyth & Greene.)

Sunday, March 31st.

Fresh gales and squally. Weighed larboard anchor. Noon. Cloudy unsettled thick weather. 6 p.m. Do. weather. Midnight. Fresh gales and thick foggy weather. Bar. 29.20. Let go head anchor.

Monday, April 1st.

Strong gales and squally. Wind from SSE to ESE Noon. Do weather. Bar. 29,00 6 pm. Do weather. Midnight. Moderate.

Tuesday, April 2nd.

Fresh gales and thick weather, with rain. Noon. Moderate Bar. 28,78 Wind variable and more settled appearance. Weighed larboard anchor. Midnight. Fresh and cloudy thick weather. Wind SSE, SE & SSW

Wednesday, April 3rd.

a.m. Fresh and squally; thick weather.

Bark ORISSA, Wm. M'Cann, Commander.

London to Singapore.

Saturday, March 30th.

Time.	Course.	Wind.	
Noon.	SSW	WNW	Noon. Lat. Obsd. 39.09 Long. (by estimate) 15,00 Moderate and clear, with heavy cross sea, decks constantly full of water.
PM.		W	
8	SbyW	Vble.	
10	S		
			Sunday, March 31st.
6AM.	SSE		am. Moderate and hazy. Noon. Squally; sun obscured. Lat. Acct. 38,01 Long. (by estimate) 15,00 pm. Fresh breeze, with heavy head sea, and passing showers of rain. 7 pm. Strong gales, with heavy sea, decks constantly full of water. 8,30 Blowing a hard gale, and sea increasing. Midnight. Very heavy rain; ship hove to.
8	WNW		
PM.		SW	
10	S		
			Monday, April 1st.
2AM.	SSE		8 am. More moderate. Noon. Hard gales, with heavy sea, ship labouring heavily, and making much water. Lat. Obsd. 38,04 Long. (by estimate) 15,00 pm. Strong gales, heavy sea. 5,30 More moderate. 8. Heavy squalls, wind and rain, with heavy lightning. Midnt. Hard gales and clear, with heavy sea.
4		WbyS.	
8	SSW		
PM.		W	
8	SW	WNW	
			Tuesday, April 2nd.
10AM.		W	am. Moderate and clear, with heavy sea. Lat. Obsd. 37,17 Long. (by estimate) 15,00 pm. Fresh breeze and cloudy, with heavy Westerly sea.

Penin. and Orient. Co. S. S. POTTINGER, from Gibraltar to Southampton.

Time.	Wind.	Bar,	
			Sunday, March 31st.
Midnt.	NW	29,90	Midnt. Light variable winds and hazy weather.
			Monday, April 1st.
4AM.	WSW	29,77	a m. Moderate winds & cloudy. 4 a.m. Fresh winds & hazy.
8		29,74	Day-light. Increasing winds and dark cloudy weather.
Noon.		29,60	Noon. Strong winds & heavy sea, with thick weather & rain.
PM.	SW		Lat. Acct. 36,56 Long. 8,38 Cape St. Vincent N 7 W, 23

(Log of Pottinger continued.)

4	W	29,47	miles. p.m. Thick rainy weather. 2 p.m. Heavy rain and a
			sudden shift of wind to the West. 6 p.m. Moderate. 8 p.m.
8	WNW		Strong winds and a heavy sea. 10 p.m. Cloudy weather,
			with lightning to NE. Midnt. Strong winds and squally at-
			tended with heavy rain.
			Tuesday, April 2nd.
4AM.		29,47	a.m. Strong winds and squalls, with heavy increasing sea from
8		29,40	the Westward. Daylight. Strong gales and heavy sea, ship-
Noon.		29,53	ping much water on deck. Noon. Do. weather. Lat. Obsd.
PM.	WSW	30,38	By Acct. 39,46 Long. by Acct. 10,30 Chr. 10,7. p.m.
4		29,59	Weather more moderate. 4 p,m. Do. weather, with heavy
8		29,60	swell. 6 p.m. Moderate ; set the foretopsail.
Midt.	SW	29,64	Midnt, Moderate and cloudy.
			Wednesday, April 3rd.
			Noon. Lat. 43,35 Long. 10,27.

Pen. and Or. S N Co S S MONTROSE, T. Bowen, Commander.
Southampton to Gibraltar.

Time.	Course.	Wind.	Bar.	
				Sunday, March 31st.
4AM.	SW	WSW	29.50	am. Strong winds with heavy squalls. 4. Strong
8AM.			29.55	winds and hazy, with rain at times. 8 a.m. Same
				weather. Saw the land bearing SbyE, too hazy
				to distinguish the locality. 10 am. Performed di-
Noon.	SWbyW		29.52	vine service. Noon. Lat. N 43.22 Long. W 9,26
				Continued heavy gale. 2 p.m. Made Cape Villano.
				bearing SEbyS distant about three leagues. 3,30
				p.m. Saw the land about Cape Toriana, bearing
4		SWbyS	29,50	SbyE, distant about 4 leagues. 4 p.m. Continued
6		SSW		heavy gale, with hard squalls & rain. 6 p.m. Do.
8			29,40	weather. 8 p.m. Heavy gales, with hard rain, &
Midnt.			29.30	dark cloudy weather. Midnight. Do. weather.
				Monday, April 1st.
3am.			29,20	Boisterous gales, with heavy squalls and rain ; a
4			29,05	very high sea, ship labouring much. 4 a.m. Do.
				weather. 5,15 a.m. Shipped a very heavy sea;
6			28.94	carried away jibstay, bobstay & bowsprit shrouds,
				hen-coops & sheep pens; ship labouring very hea-
				vily ; set close-reefed try sails, sent down topsail
8			29,01	yard, and housed the topmast, 8 a.m Gale more
				moderate. 10 a.m. Saw the Island of Salvoria,
11		Wly		bearing E 7 miles. 11 a.m. Saw the Bayone Is-
				lands, bearing S. Heavy thunder and lightning.
Noon.			29.04	Noon. More fine. Onza Island NEbyE, 4 miles.
pm.		WSW		p.m. Fresh gale and cloudy, with rain at times.
				Entered the North Channel. 1,55 p.m. Entered
				Vigo Bay. 4 p.m. Continued heavy gale attend-
6		SWbyW		ed by thunder & lightning. 8 p.m. Do. weather.
Midnt.			29.10	Midnt. Do. weather.
				Tuesday, April 2nd.
4am.		WSW	29,10	a.m. Strong gales, with hard squalls & heavy rain,

(Log of Montrose continued.)

5	SWly		thunder and lightning. 4 a.m. Do. weather. 8 am.
8	SWbyW	22.19	Strong winds, with heavy squalls; repairing da-
Noon.		29.35	mages. Noon. Fresh gales and squally, lying at
pm.	WSW		single anchor in Vigo Bay. p.m. Strong winds &
			cloudy. 4 p.m. Gale moderating. 5,20 p.m. Weigh-
6,10		29.50	ed & proceeded out of Vigo Bay. 6,10 p.m. South
8	W	29.50	end of Bayona's, WSW about 2 miles. 8 p.m.
			Fresh breeze and cloudy, with heavy squalls.
Midnt.		29,60	Midnt. Strong winds and squally, with rain at
			intervals.

Jeremy Collier Angove, Chief Officer.

Pen. and Or. S. N. Co. S.S. EUXINE.

Southampton to Constantinople.

Time.	Wind.	Bar.	
			Sunday, March 31st.
Noon.	SSW	29.58	8. Moderate and cloudy, with less sea. Noon. Ditto wind
pm.	SbyW		weather, and sea. Lat. by Obsn. 46.35 Long. Chr. 7.46.
4	SSW	29.52	4 p.m. Fresh gale and cloudy weather, with rain and in-
8		29.45	creasing sea; shipping much water. 8 p.m. Decreasing
Midnt.		29.40	wind, with less rain. Midnt. Increasing strong gales, with
			heavy rain and sea, shipping much water on deck over all.
			Monday, April 1st.
4am.		29.15	a.m. Do. weather; unshipped after gangways for the water
5	S		to run off. 4 a.m. Do. do. 8 a.m. Do. do. 9,30 Eased
8	SWbyS	29.00	the engine. Noon. Fresh gale; Do. weather and sea.
Noon.		28.98	Lat. 44,43 Long. Chr. 9,12 p.m. Strong gale & squally
pm.	S		rain, and shipping much sea. 4 p.m. Do. wind, weather &
4	SWly	28.98	sea. 8. Squally, with lightning. and continued heavy sea.
8		29.03	Midnt. Do. wind, weather, and sea.
			Tuesday, April 2nd.
4am.		29,10	a.m. Fresh gale, with occasional hard squalls of wind & rain,
			& much lightning at SSE; ship rolling heavily, and shipping
			much water. 5 a.m. Decreasing wind and finer weather
8		29,30	6 a.m. Observed the land about Cape Villiano S E 18 or 20
Noon.		29,44	miles. 8 a.m. Strong breeze, with finer weather and less
1pm.	WSW		sea. Noon. Decreasing wind and sea, & fine clear weather.
4	SW	29,50	Lat. Obsd. 42,36 Long. Chr. 9,42 1 p.m. Moderating.
8		29,62	2 p.m. Set mainsail and topmast staysail. Fresh breeze and
Midnt.		29,70	finer weather, with considerable SWly sea.

H. W. King.

Penin. & Oriental S.N. Co. S.S. PACHA.

Lisbon to Southampton.

Time.	Wind.	Bar.	
			Sunday, March 31st.
Noon	ssw.	29.61	a. m. Steady breezes. Noon. Steady breeze and cloudy
			weather. Lat. 45.11. Long. 8.23. 4 p.m. Heavy rains.
			6 p.m. Strong breezes. In 1st reef of topsail, and reefed
Midnt.	s	29,40	the foresail. Midnight. Gloomy weather and threatening,

(Log of Pacha continued.)

			Monday, April 1st.
1 A.M.	SSE		a.m. Strong breezes and gloomy weather, with incessant
2	SE		heavy rain. 4 a.m. Freshening gale, and sea getting up.
4		29,28	Day-light. Strong gale and dense weather, with high cross
Noon.	SSE	28.95	sea. Noon. Fresh gale and thick rainy weather. Lat. by Acct.
			48,34 Long. by Chr. 5,36 By Acct. 5,45 p.m. Strong
			gale and thick rainy weather. 1,10 p.m. [Shortened sail.]
4 P.M.		28,95	4 p.m. Strong gale and gloomy weather. 8. Strong breezes
Midnt.		29,03	and cloudy [making more sail.] Midnt. Fresh breeze and
			more settled appearance.
			Tuesday, April 2nd.
			a.m. Fresh breeze and cloudy. 0,15 Observed the Start
			Light NNW 16 miles. 4 a.m. Strong breezes and fine
11,20		29,11	weather. 9.25 Passed the Needles. 11,20 Entered Southampton Dock.

DUKE OF CORNWALL, from China to London.
(Communicated by Messrs. Heath and Palmer.)

Time.	Course.	Wind.	Bar.	
				Sunday, March 31st.
Noon.	SEbyS	SW	29,43	Strong breezes, with hazy weather, and a high
				head sea; ship pitching heavily. Lat. Obsd.
				50,13 Long. Chr. 7,43.
1 P.M.	SEbyE	SSW		Increasing breezes, with hazy weather and cross
3	SE½E			sea throughout the first part.
5	WbyS			6. Breezes increased to gale. 7. Strong gale,
				with heavy squalls and rain. 8. Blowing a heavy
9	Up WSW Off W	S		gale, with heavy squalls and rain. Hove the ship to under trysails. &c.
Midt.				Heavy gale, with a high sea; ship labouring
				violently.
				Monday, April 1st.
	Up SSW Off West.	SSW		a.m. Heavy gale, with squalls and rain, and a high sea, ship labouring heavily.
6	Up E by S Off E½N			6 a.m. Moderate gale; dark thick weather, with rain.
7			29,20	9. Heavy gale, squalls and rain.
9			29,12	10. Heavy rain and squalls.
10	Up SW½S	SSE		11. Tremendous heavy squalls, with rain; ship
11	Off SWbyW		28,90	pitching bows under.
				Noon. Lat. Acct. 50,25 Long. Chr. 8,22
				p.m. Brisk gale, thick hazy drizzling rain; high
				sea; ship labouring heavily.
6	Up WSW	S		4. Moderate. 8. Moderate breezes, threatening
8	Off W		28,84	appearance and very high sea. Ship lurching
				heavily.
Midt.			28,80	Midt. Very unsettled appearance; high swell
				from Westward.
				Tuesday, April 2nd.
5 a.m.	Up WSW Off WbyN	S		a.m. Strong gale, smart squalls, thick hazy weather, Very high swell from Westward. Ship

(Log of Duke of Cornwall continued.)

6			28,80	hove to under trysails, and close-reefed mizen topsail. 10. Heavy squalls, with rain; high sea, ship pitching heavily.
Noon.			28,78	Noon. Heavy squalls and rain. Lat. 50,26 Long. 8,40 p.m. Strong gale, high sea.
2	S	WSW	29,14	Ship pitching bows under; wind veered to WSW. More moderate. 8. Moderate breezes, high head sea; ship pitching bowsprit under. Midt. Strong breezes, with squalls and cloudy weather.
				Wednesday, April 3rd.
		SW		am. Strong breezes, cloudy; very high sea, ship pitching heavily. 8. Hove ship to. Noon. Lat. Indiff. reduction 49,53 Long. Acct. 7,27.

R. M. Steamer COURIER, Jersey to Southampton.
(Communicated by the London and South-Western Railway Company.)
Monday, April 1st.

Wind.	
SSE	a.m. Strong breezes & cloudy. 8,15 Do. weather; started from Jersey. Arrived at Guernsey 10,15 Proceeded 10,45. Noon. Brisk gale and cloudy weather. 5,55 p.m. Abreast of Needles. Do. weather. 7,50 Arrived at Southampton.

The continuation of this Storm will be found in the Light-House Tables at the conclusion of Storm E.

§ VI.

Storm C.

Abstract from Log of Brig VELOCITY, Capt. Holmes.
From Oporto to Philadelphia.
(Communicated by Messrs. Newman and Hunt.)

Date	AM	PM	Weather	Lat	Long	Remarks.
March 31st.	SE	WSW	Fresh	32,30	63,24	Fresh wind throughout
Apr. 1st,	WSW	S	Strng.gale	33,04	64,25	Strong gale and squally
2nd.	NbyE		Showery	33,02	66,29	Strong wind and showery.

London and New York Liner MARGARET EVANS, E. G. Tinker, Commander.
From New York to London.

	Lat.	Long.	Bar.		AM.	Noon.	P.M.	
March 31st,	39,50	70,00	30,00	39	Calm.	NEbyE	NE	Calm Very light
April 1st.	39,52	66,45	30,00	42	NNE	N	NNW	Brisk; fresh.
2nd.	39,50	63,00	30,20	51	NNW	Calm.	W	Light & fine. Calm.

London & New York Liner PRINCE ALBERT, F. R. Meyer, Commander.
London to New York.

Sunday, March 31st.

10 a.m. A long sea rolling SE. Noon. Lat. 41,09. Long. 56,20 p.m. Light winds hauling N and E. Towards Midnight strong winds from East.

Monday, April 1st.

Towards Noon, strong winds and squally weather, and long sea setting to the SE. Ship under double-reefed topsails. Noon. Lat. 41,10 Long. 58,00 pm. Fresh breeze from NNE and squally. 11 pm. Close-reefed topsail, split mainsail and furled it. Course WNW.

Tuesday, April 2nd.

9 am. Repaired and set maintopsail. Noon. Lighter winds and squally weather. Lat. 40,21 Long. 60,00 pm. Fresh breeze from North, and squally weather. Course WNW.

Wednesday, April 3rd.

8 am. Course ENE. Wind variable. 9 am. Wore ship to North. 11 am. Wind NNW. Noon. Fine pleasant weather. Lat. 40,31 Long. 61,00 pm. Light pleasant weather. Wind W. Course WNW.

QUEEN OF THE WEST.

April 2nd. In Lat. 41 Long. 55 experienced a hard gale from NNE for 4 or 5 hours. At Noon this day Lat. 40,49 Long. 55,31 It was not stated whether the gale was before or after Noon.

B. and N. American R. M. St. Packet EUROPA.

Liverpool to Boston, U. S.

(Communicated by Messrs. D. & C. M'Iver, of Liverpool.)

		Lat.	Long.	Bar.	Wind.	Force.
Sunday, March 31st,	Noon.	46,55	46.21		NNW	Fresh
	8 pm.			30,10		
Monday, April 1st,	6 am.					Calm
	8 am.			29,80		
	Noon.	44,47	51,20		N	Light
	6 pm.				N	Moderate.
	8 pm.			29,50		
	Midnight				NNW	Strong.
Tuesday, April 2nd,	6 am.				NNE	Strong & squally.
	8 am.			30,00		
	Noon.	43,41	56,46		N	Fresh.

London and New York Liner NORTHUMBERLAND, J. M. Lord, Commander.

London to New York.

	Course.	Wind.	Bar.	Th.	
					Monday, April 1st.
					4 a.m. Made all sail. 8 a.m. Nearly calm.
Noon.	5 W	NNW	29,3	47	Noon. Light wind and cloudy weather. Lat. 44,25 Obsd. Long. 45,16 Chr. Bar. falling. [N.B. During this gale the ship was on the starboard tack. Ed.]
PM.	WbyN	NE			pm. A light breeze from the NE & cloudy weather 4 pm, Breeze freshens. 6 pm. Do. do. 8 pm. Do. do. with rain, close-reefed the topsails, reefed and furled mainsail, jib, &c. Midnt. Close reefed the foresail, wind increasing to a gale and heavy sea, shipping considerable water.
					Tuesday, April 2nd.
7 AM.	W½N	NNE			4 am. Do. do. 8 am. Turned a reef out of foresail and maintopsail, passed a Barque with main-yard gone. 10 am. Hard squalls of snow.
Noon.			29,1	38	Noon. Lat. 43,28 DR. Long. 49,38 DR. Barometer rising. A strong gale & cloudy weather.
PM.	WSW	NW			p.m. A strong gale and cloudy weather. 4 p.m. Do. do. 8 p.m. Do. do. Midnight. Turned the reefs out of the topsails, set the mainsail, jib, &c.
					Wednesday, April 3rd.
					4 a.m. Set the top-gallant sails. Fine weather.
					8 a.m. Do. do.
Noon.			29,9	48	Noon. Lat. Obsd. 41,46 Long. Chr. 51,54

(Log of the Northumberland continued.)

PM.	W	NNW		Bar. rising. Fine breeze and clear weather. All sails set. p.m. Clear weather and a strong breeze. 1 p.m. Single reefed the topsails and set top-gallant sails. 5 p.m. Carried away the foretop-gallant yard. 8 p.m. More moderate. Midt. Calm.
Midt.			29,8	

S L Spencer, Mate.

HERMANN, Steam ship. Bremen to New York.

Sunday, March 31st.

Noon. Lat. 45,32 Long. 45,39 Midnight. Bar. 29,30.

Monday, April 1st.

a m. Clear and pleasant. Light airs from Northward. Noon. Lat. 44,24 Long. 46,36 Bar. 29,55 p.m. Moderate and cloudy, Wind NE. Later. Light breezes. Midnt. Strong breezes NE. Bar. 29.55.

Tuesday, April 2nd.

a.m. Fresh gales from N. Noon. Lat. 43,41 Long. 50,59 Bar. 29,55 p.m. Clear weather, with fresh gales from N. Midnt. Moderate. Bar. 29,55.

Wednesday, April 3rd.

Noon. Lat. 43,12 Long. 55,6 Bar. 29,88 Fine weather after this to New York.

———— Mate.

London and New York Liner, WELLINGTON, Charles Chadwick, Commander.

New York to London.

WIND.				
6 a.m.	Noon.	6 p.m.	Midn.	
				Sunday, March 31st.
				Noon, Lat. by Obsn. 43,18 Long. DR 43,26 pm. Squally. 2 pm. Moderated. 6 p.m. Wind N. About midnight made sail.
				Monday, April 1st.
W	NW	SE	EbyS	Noon. Lat. Obsd. 43,42 Long. Chro, 41,50 6 pm. Gale increasing rapidly.
				Tuesday, April 2nd.
E		ENE	NE	Lat. Obsd. 44.32 Long. DR 41,50 Midnt. Gale moderating.
				Wednesday, April 3rd.
N	N			2 am. Wind hauled to North. Noon. Lat. Obsd. 44,12 Long. Chro. 41,35

Abstract of the Log of the CHANTICLEER, from Bahia to London.

(Communicated by Messrs. Newman and Hunt.)

Date.	Wind.	Weather.	Lat.	Long.
Monday, April 1st.	NEbyE	Cloudy.	14,49	38,50
Tuesday, April 2nd.	NEbyE	Fair.	17,47	40,00
Wednesday, April 3rd.	NEbyE NE Calm.	Fair.	19,22	42,55

Ship HASHEMY, from Madras to England.

(Communicated by Messrs. Heath and Palmer.)

Time.	Course.	Wind.	
			Monday, April 1st.
		Calm.	Calm. Fine clear weather.
7	NEbyN	S	Light wind and fine. Lat. Obsd. 25,3 N Long. 38,14 W
PM.	NEbyN		Light variable winds; cloudy. 8. Increasing and cloudy.
			Tuesday, April 2nd.
AM.		Sd to Wd	Increasing variable breeze and cloudy. Noon. Lat. Obsd.
9		WNW	26,15 Long. 37.40 pm. Fresh breeze, variable to Westward
10,30		NW	and fine 10,30 Wind drawing to NW. Midnt. Rainy.
			Wednesday, April 3rd.
AM.			Strong breeze, heavy sea, squally. 4. Strong breeze, Do. sea.
Noon.			Decreasing breeze, cloudy. Lat. Obsd. 28,29 Long. 36,36
4 PM.			Fresh breeze, cloudy, with a heavy swell from Westward.
			6. Breeze more moderate. 8. Fresh breeze & cloudy, with
			a heavy swell at SW. Midnt. Fresh breeze, cloudy.
			Thursday, April 4th.
AM.		NWbyN	am. Strong breeze, fine. Daylight. Light squalls, with
			thunder and lightning. 8. Squally, with rain.
			Noon. Fresh squalls; showery. Lat. 29,48 Long. 35,19.
PM.		NNW	pm. Strong breeze; cloudy. 6 Fresh breeze and fine.
5	EbyN	N	A heavy sea from NW. Midt. Moderate breeze; squally.
			Friday, April 5th.
AM.		N&E	am. Moderate breeze, clear; sea going down. Daylight.
			8. Light wind, fine. Noon. Lat. Obs. 30,15 Long. 33,46
PM.		N	pm. Light wind, fine.

[Through an accident in setting up Page xliii. a portion of the Log of the SEA PARK for Storm *B.* was omitted; The reader is requested to cancel the paragraph commencing "Monday, April 1st," and to substitute the following,

Monday, April 1st.

4 am. No alteration. 6. More moderate; squalls less severe. 9. Set the double-reefed mizen topsail and storm mizen. 11. Reefed the mainsail and set it. Noon. Fresh gales and clear. Lat. Obsd. 39,5 Long. Chr. 28,53 pm Moderate breeze and fine. 1 pm. Out 3rd reefs of the topsails, & set the reefed mainsail. 7 pm. Set the jib.

Tuesday, April 2nd.

4 am. Moderate breeze variable, & drizzling rain.
5 ENE 29,80 5. Altered course. 6. Clearing up and fine; out 2nd reefs of the topsails, and set the fore and main topgallant sails. Noon. Lat. (Indiff. Obs) 40,44 Long. Chr. 26,54.]

SEA PARK, Thos. Humphris, Commander.

Calcutta to England.

Time.	Course.	Wind.	Bar.	Th.	
					Monday, April 1st.
					Noon. Lat. Obsd. 39,5 Long. Chro. 28,53
					Tuesday, April 2nd.
5 AM.	ENE	SSW	29,80		5 a.m Moderate breeze and drizzling rain.

Noon. WSW 29,30 64
PM. EbyN 28,90

6. Clearing up & fine ; out 2nd reefs of the topsails, and set the maintop-gallant sail. 8. Fresh breeze and fine clear weather. 10. Wind freshening rapidly, and sea getting up, in fore & main top-gallant sails. 11. Cloudy dismal appearance and strong gusts, reduced sail to treble-reefed topsails, foresail, and staysail Noon. Lat. (Obsd. indifft.) 40,44 Long. Chr. 26.54 p.m. Wind increasing rapidly to a gale. Bar. falling rapidly, secured every thing as per Log. 6 p.m. In foretopsail. The wind howling in terrific gusts, and the sea rising quickly to a surprising height; treble-reefed the main-topsail, and kept four hands steering. At sunset the weather presented a most dismal appearance, the sun set clear, but with a pale sickly appearance, like the moon ; reefed the foresail. At 8 the Bar. 28,80 falling fast ; about this time the wind increased to a perfect hurricane, blowing in one continued howl, resembling the loudest thunder, the sea running immensely high, and of a most furious character ; the ship running well before the wind and sea 10½ knots per hour, and the wind steady in the same quarter.* Midnight. The tempest, if possible, increasing in violence, with a pitchy darkness, the sea breaking on board over each quarter, and filling the deck ; the crew constantly at the pumps and baling the cabins and forecastle ; knocked out two ports on each side to allow an escape for the water, the ship behaving well, and making little water, though from the state of the weather it was deemed necessary to keep the hands pumping, not being able to sound the well,

Wednesday, April 3rd,

About 1 a.m. a sea broke in over the larboard quarter, stove in the quarter-deck bulwarks on that side, filled the deck, and rushing aft stove in the whole of the poop bulkhead in an instant, washing away the larboard poop awning-cabin, and dead lights, and sea after sea following, the whole of the poop-cabins, with their contents, were destroyed, with the exception of the starboard after cabin. The sea from this time making one clear sweep through the ship's cuddy and cabins.

At 5 a.m. the Bar. at 28,55 the hurricane still blowing with unabated violence, we continued to run before the sea, the ship throughout behaving remarkably well ; we were afraid to heave to on account of the high sea. At 6 the Bar. began to rise, but the gale continued with unabated fury till Noon, when there was less wind ; every sea now filled the deck, washing away ports, bulwarks, and every thing before it, and rendering it extremely dangerous for the men at the pumps. Several heavy seas pooped us in succession. Under these circumstances we judged it necessary at all hazards, for the immediate preservation of the ship to

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* In acknowledging my obligations to Capt. Humphris for the readiness with which he communicated to me some very valuable information respecting the Storms under consideration, I embrace this opportunity of putting on record in the Second Part of the Appendix some details relative to a Cyclone off the Mauritius in January 1850, which may be as useful for the guidance of others as they were creditable to himself, and important to his Owners. The skilful manner, in which on that occasion he availed himself of the scientific principles laid down by Col. Reid and other writers to save his ship from running into danger within the Tropics, contrasts strongly with that recorded above, for which I can account in no other way than by supposing that Capt. Humphris did not consider The Law of Storms applicable to the Extra-tropical Gales of the North Atlantic.

(Log of Sea Park continued.)

round her to ; close reefed the main-topsail, took in the foresail & staysail, and at 1 p.m. put the helm down, run the storm mizen up, and brought the ship to the wind on the starboard tack. The ship now made less water, and shipped much less, so that we were enabled to light a fire in the galley, and cook something for the fatigued crew, who had had no food since the preceding evening. [Note by Editor. I have given all these details as illustrative of an extra-tropical hurricane. and of an instance of extreme barometrical depression.]

Noon.		28,50	60	Noon. Lat. by Account. 42.00 Long. 23.00 About 4 p.m. the wind began to veer to the West, and the Bar. to rise at 8 p.m. the weather clearing up fast.
10	WNW	29,20		10 pm. Weather fine; bore up and made sail to double-reefed topsails, foresail, and staysails ; sea going down fast.
				Thursday, April 4th.
				a.m. Moderate breeze WNWly, out all reefs, set topgallant sails. Noon. Lat. Obsd. 43,6 Long.
Noon.		29,90	60	Chr. 21,20 p.m. Light Northerly airs, and fine weather. Towards Midnight wind increasing.

J. Maude, Chief Officer.

ONWARD resumed. At St. Michaels.

Tuesday, April 2nd. Variable WNW. These 24 hours strong winds and very unsettled weather. At Midnight, more moderate.

Wednesday, April 3rd. WbyS W½N WNW These 24 hours strong gales, with very heavy sea. At 8 am. shipped a sea full up to the decks Midnt. More moderate and cloudy.

Thursday, April 4th. Variable. Moderate breeze and showery. At Noon, St. Michaels bore ENE 20 miles.

Log of MADAGASCAR, from London to Madras.

(Communicated by Messrs. R. & H. Green.)

	Course.	Wind.	Bar.	Th.	
					Tuesday, April 2nd.
Noon.		NNE	29.87	79	Lat. 7.39 Long. 19.50 Light variable airs and
PM.	S	NE			Calms. PM. Variable airs, and cloudy to the SE.
5		E			5 pm. Squally, with heavy rain. 9. Strong winds
7	SWbyS	SE			and puffy. Midnt. More moderate.

Brig BRILLIANT, at Madeira.

(Communicated by Capt. J. B. Caldbeck.)

April 3rd, am. Light winds at W and NW and cloudy. Noon, Strong winds and cloudy, Latter part, Light winds and cloudy.

4th, WNW, Moderate winds and fine weather throughout the 24 hours.

5th, SW, NW, a.m, Light winds and cloudy, Latter part. Do, weather.

Abstract Log of Schooner ROLLO, from Jersey to Newfoundland.
[Reduced from Nautical to Civil Time. Ed.]
(Communicated by C. Lequesne, Esq.)

Time.	Lat.	Long.	Wind.	Weather.
April 3rd,	48,52	23,56	Vble-NNE	with rain at times.
4th,	47,57	25,21	WNW	Fresh gale throughout, with rain.
5th,	47,35	26,35	W Vble	Fresh gale and squally, with rain.

B B GREENE, Mauritius to London.
(Communicated by Messrs. H. D. and Jas. Blyth and Greene.)

Wednesday, April 3rd. am. Wind variable to S with rain. 6 am. Bar. 28,65 Noon. Strong SW wind. Lat. 50,31 Long. 13.52 pm. Steady NW wind, with rain.

Thursday, April 4th. am. Fresh breeze, with rain. Noon. Off Cape Clear.

Schooner OCEAN, from Jersey to Newfoundland.
(Communicated by C. Lequesne, Esq.)

Tuesday, April 2nd.

Noon. Lat. Obsd. 49,07 Long. 15,30

Wednesday, April 3rd.

4AM. NNW NW 4 a.m. More moderate. At 10 heavy squalls and rainy. Noon. Lat. Obsd. 49,00 Long. DR 17,09 Fresh gales and hard squalls, with a heavy head sea on, and rainy weather throughout, ship labouring very much.

PM. SbyW 4 pm. More moderate. Set jibs, let the 2nd reef out of the
8 W½S main topsail, and set the main topgallant sail. 7,30 pm. Tacked ship. 10 pm. Heavy squalls and rainy; handed the main topgallant sail, and double-reefed the main topsail. 11 pm. Fresh gales with a heavy head sea.

Thursday, April 4th.

8 am. More moderate. Lat. DR 49.33 Obsd. 48,28]
Long. DR 17.56 Chr. 17.56

Abstract Log of the Ship HENDRIK HUDSON, I. Pratt, Commander.
Bound from New York to London.

Times of Observation	A. M.			Noon.			P. M.
	Bar. 9 a, m,	Ther 9 a. m Air.	Wat.	Lat. Noon	Lon. Noon	Wind	Weather
April 2,	28,70	56	56	47,54	18,00	WSW	Heavy squalls,
						SbyW	Strong gale and rain,
3,	28,40	58	56			SW	Strong breeze with rain,
				49,00	14,32	WSW	Heavy squalls with rain,
						W	Heavy gale,
4,	29,30	60	56			W	Strong breeze; thick weather
				49,25	9,47	WNW	Strong breeze and fine,
						WNW	Ditto
5,	29,50	60	56			WNW	Ditto ditto
				49,55	4,50	WNW	Moderate fine weather,

J Batt, Mate.

Log of H. M. Ship CROCODILE, at Cork.

(Communicated by their Lordships the Commissioners of the Admiralty.)

Time.	Wind.	Force.	Weather.	Bar.	Th.
		Tuesday, April 2nd.			
4PM.	Vble.	3	M P		
8PM.	NW	3	M P	28,92	54
Midnt.	to SW	..	..		
		Wednesday, April 3rd.			
4AM.	SW	4	O Q P		
8	SSW	3	..	30, 4*	49
Noon.	S	4	O Q R		
4PM.	SW	4	O Q R		
		Thursday, April 4th.			
8	..	..	..	28,82	54
4AM.	SW	4	C P		
8	WNW	..	B C P	28,47	52
4PM.	NW	5	Q P		
8	WNW	..	B C	29,48	54
Midnt.	N	4	..		
		Friday, April 5th.			
4AM.	NW	4	B C		
8	..	..	..	29,72	49
Noon.	Vble.	3	..		

Log of the Ship WELLESLEY, from St. Helena to London.

(Communicated by Messrs. R. & H. Green.)

Time.	Course.	Wind.	Bar.	
				Tuesday, April 2nd.
Noon.	E	NW	28,90	Noon. Fresh breeze and fine. Lat. 48,08 Long. 13,33 6 pm. Moderate and fine. 10 pm. Fresh and fine.
6		WNW		
10		SW		
				Wednesday, April 3rd.
AM.	E½S	SSW		am. Increasing to a strong gale; thick rain, with furious squalls. 6 am. Sharp squalls, with rain. 8 am. Thick rain, shipping great quantities of water. Noon. Hard gale, with furious squalls. Lat. 49,12 Long. 9,40 2 pm. Strong breeze, with rain. 7 pm. Hard squalls, with rain. 11 pm. Increasing gale, with furious squalls; ship hove to.
6	ENE			
8	E½S	SW		
Noon.	ESE		28,88	
2		SSW		
11	Up S			
				Thursday, April 4th.
1AM.	Up WSW	WNW		1 am. Blowing a perfect hurricane, with tremendous sea running. 3 am. Clearing a little, and more moderate at times, but blowing very heavily, with terrific squalls; ship behaving very well, but lying at times in the trough of the sea. 10 am. The gale broke, and came out a clear fine day. Bore up channel under close reefs. Noon. Lat. 49,28 Long. 6,56. 1 pm. Wind moderating fast; sea continually rolling over the ship, and she was like a half-tide rock, shipping much water. 9. Made the Lizard Light NEbyN. Midnt. Fresh breeze; fine and clear.
Noon.	E½S		29,10	

Friday, April 5th.

am. Moderate and fine. Noon. Lat. 50,18 Long. 2,25.

Abstract Log of Brig HARMONY, Barbadoes to Cork. (Nautical Time.)

Tuesday, April 2nd. Lat. by Obs. 49.54 Long. by Chro. 14,17,45.

Wednesday, April 3rd. Lat. by Obs. 50.46 Long. by Chro. 10.34 Strong breeze from W to S, and squally.

Thursday, April 4th. 11.30 AM. came to anchor; strong breeze from Westward.

NAUTILUS, W. A. Davidson, Commander.
From Cork to Bristol.
(Communicated by Messrs. H D & Jas. Blyth & Greene.)

Wednesday, April 3rd.

Fresh and squally; thick weather. At 8 am. Fresh gales and much rain. 9 am. hard gales. Noon. Do. weather with violent squalls, Wind SWbyS. S. SSE. SSW. Bar. 28.78. 6 pm. more moderate. Midnight. Do. weather.

Thursday, April 4th.

Moderate and cloudy. 6 am. made sail and weighed, ship starting her anchor in a heavy squall. Strong gales and hard squalls. Midnight. Fresh gales & cross sea.

Friday, April 5th.

Strong breeze and fine weather. Lat. Obsd. 51.25 Long. 6.20 Moderate and hazy. At 7 pm. Saw Lundy Island Light bearing SEbyS 20 miles. Midnight. WSW 15 miles.

W. A. Davidson, Commander.

Log of H. M. Ship GRIFFON.
From Pernambuco to England.

							Lat.		Long.		
Time.	Course.	Wind.	Force.	Weather.	Bar.	Th.	DR	Obs.	DR	Chro.	
Tuesday, April 2nd.											
Midnt.					28,86	62					
Wednesday, April 3rd.											
1AM.	SE	WbyS	8	c							
4		SSW		c o							
6		SW	7		28.83	66					8AM. Tacked; in 2nd and 3rd reef of foretopsail, and close reefed mainsail.
7				c q r							
9	W	SSW									
Noon.					28.64	62	49,47	50, 2	9,14	9.17	
1PM.	WbyN	SWbyW	6	c q r							2PM. Wore. Heavy sea from Southward
3	SEbyS	SW									
6					28.63	66					
7		SWbyS									
9			8	c q r							
Midnt.					28.57	64					
Thursday, April 4th.											
1AM.	SbyE	WSW	9	c m u							
5	SE	SW	9	b c m							6AM. Very heavy sea from NW.
9		WNW	9	c q			49.21	40.42	6.33	6.25	
Noon.			8	b c	28.98	64					Current NE 22 miles.

(Log of Griffon continued.)

1PM.	E½S	W	8	B C			
6	NE		7	B C M	29.20	06	
7	NE		6				
9	ESE	WNW	8	B C			10PM Standing off and on
Midt.					29.35	60	to keep position.

Friday, April 5th.

1AM.		WNW	6	B C			3AM. Eddystone ESE 4
6			6		29.59	60	miles.
10		W	5	B C Q			10.30 Bore up for Ply-
Noon.					29.65	65	mouth Sound. Noon. Came to.
1PM.			7	B C V			
6		Calm.			29.65	66	

DUKE OF CORNWALL, from China to London.

(Communicated by Messrs. Heath and Palmer.)

Time.	Course.	Wind.	Bar.	
				Tuesday, April 2nd.
Midt.	S	WSW	29,14	Noon. Lat. 50,26 Long. 8,40
				Wednesday, April 3rd.
AM.	S	WSW		am. Strong breezes, cloudy; very high sea, ship
4		SW		pitching heavily. 8. Brisk gale and heavy rain;
8	Up W½S	SSW		Hove ship to. Heavy gale, thick foggy weather, with rain & very high sea. Ship pitching violently.
Noon.			28,98	Noon. Lat. Indifft. Red. 49,53 Long. Acct. 7,27.
PM.	Up WNW	WSW		pm. Heavy gale, thick rainy weather, high head sea, ship pitching bows under, and shipping heavy
5	Up SSE	SW		seas. 5. Wind shifted to SW in a heavy squall with rain. 8. Blowing a very heavy gale, with squalls and rain; ship pitching violently. Midt.
Midt.			28,71	Blowing a complete storm, with heavy rains.
				Thursday, April 4th.
AM.	Up NWbyW	W		am. Heavy gale with squalls and rain, and a high sea, ship labouring very heavily, and shipping
7	Up SSW	WNW		much water. 7. Same weather. 8. Strong gales at WNW, with a mountainous sea, ship labouring
Noon.			29,19	very heavily. Lat. Obsd. 50.20 Long. Chro. 7.45
PM.	S	WNW		pm, Strong gale, hazy, high sea; ship labouring heavily. 1.30 Bore away South. 8. Strong
10	SE			breezes, clear. 9. Saw St. Agnes light. Strong breezes, clear.
				Friday, April 5th.
5AM.	E	W		am. Strong breeze, clear. Noon. Moderate & hazy.
Noon.			29,97	Lat. Obsd. 50.01 pm. Moderate breezes, hazy. 5. Light breezes, hazy. 8. Light steady breezes. Midnt. Light breezes.

WASHINGTON, G. W. Floyd.

New York to Bremen; (corrected to civil time.)

Tuesday, April 2nd.

Noon. Lat. 49,40 Long. 8,50 pm. Strong breeze WSW and frequent squalls of rain. 4. Do. weather. Bar. 29. 7. SW. 8. Moderating. 11. SSW.

Wednesday, April 3rd.

1 am. SSW. 3 am. SbyW. 4 am. Bar. 29,1. 8 am. Bar. 29. Thick weather, with heavy squalls of wind and rain, & heavy swell setting to Northward. Noon. Lat. 49,33 Long. 5,18 Bar. 28.1* Strong and heavy gale SSW with heavy sea running. 4. S. Bar. 28,2 10 pm. SW. 10.30 pm. Hove ship to; thick weather. Midnt. Ship labouring heavily.

Thursday, April 4th.

2 am. WSW Bar. 28,5 Ditto wind and weather. 5 am. Bore away up channel. 8 am. Bar. 28,8 Noon. Lat. 50,46 Long. 1,16 1 pm. Strong breeze WNW and cloudy. 4 pm. Bar. 29,3 Midnt. Light airs and fine weather.

Friday, April 5th.

4 am. Bar. 29,6 8,30 am. Anchored at Cowes.

* This fall of the Barometer was so extraordinary that I hesitated to copy it until Capt. Floyd assured me that it was stated correctly.

RANDOLPH, from Calcutta to England.

(Communicated by Messrs. D. Dunbar & Sons.)

Time.	Course.		Wind.	Bar.	Th.	
						Tuesday, April 2nd.
8pm.	7.4	NE byE ½E	WSW	29.53		Noon. Lat. 44.14 Long. Chro. 12.53 8 pm.
						Moderate and cloudy, with dirty appearance. Ship
						rolling heavily. Midnight. Increasing breeze; in
Midt.	8.4		SW	29.49		all studsails, and fore & mizen top-gallant sails.
						Wednesday, April 3rd.
						1 am. Strong breeze and squally, with continual
4	9			29.30		rain, ship knocking about a great deal; in main-
						topgallant sail, reefed mizen topsail, stowed main-
						sail and mizen. 6 am. Hard gale, with heavy
7	8	ENE				cross sea, shipping a great deal of water; double-
						reefed topsails. Forenoon. Do. weather, with
10	8			29.24		continual rain. Noon. Do. weather. Lat. Obsd.
Noon	7.4			29.20	65	dble. alt. 46,51 Long. dble. alt. 10.23 1 pm.
1	8.4					Strong gale, with finer appearance. 4 pm. In-
						creasing gale, Barometer falling; rolling heavily,
6	9			29.16		and shipping a great deal of water. 7 pm. Heavy
						gale, with terrific sea; ship labouring a great deal
10	9.4			29.14		and shipping an immense quantity of water; in
Midt	9.4					mizen topsail. Towards Midnight. Blowing a per-
						fect hurricane in squalls, with light rain, labour-
						ing much, and shipping a great deal of water.
						Thursday, April 4th.
am.	9			29.12		1 am. Heavy gale with hard squalls, labouring a
						great deal; shipped a sea, washed away nettings.
4	9		WSW			4 am. Do. weather. 6 am. Do. weather. Shipped
6	8.4			29.18		a heavy sea, stove all port hammock nettings.
						8 am. Labouring a great deal, shipping an im-
10	8	EbyN		29.35		mense quantity of water. Forenoon. Hard gale
Noon	8			29.49	64	with very high sea. Noon. More moderate; set
						mizen topsail. Lat. Obsd. 49.14 N Long. Chr.
1pm.	8		W			6.55 W pm. At 12.30 shipped a heavy sea, stove
						stern boat. 2 pm. More moderate; out one reef

(Log of Randolph continued.)

4	8			main-topsail; set main-topgallant sail. 4 pm. More moderate, Barometer rising; up main-royal yard, set the sail. 8 pm. Moderate and fine.
8	8		29.60	9 pm. Sighted Lizard Lights NEbyN. Midnight. Do. weather.
				Friday, April 5th.
1		E½S		1 am. Fresh gale and fine. 4 am. Do. weather 5 am. Sighted land about the Start; made all possible sail, "Wellesley" in company.
1am.				

HM. Sloop ALERT.
Coast of Africa to Plymouth.

Time.	Course.	Wind.	Force.	Weather.	Bar.	Th.	Lat. DR	Lat. Obs.	Long. DR	Long. Chr.	
				Tuesday, April 2nd.							
Noon.	ENE	W	6	B C V	29.33	60					
Midt.	..	SSW	..	C Q M							
				Wednesday, April 3rd.							
1 AM.	..	SW	7	O G Q R							1.30 a m. In topgallant sails.
3	..	SSW	..	Q P							5.30 In 2nd reef of topsails.
4	..	..	..	O G Q R							11.30 In 3rd reef of main, & 4th
6	..	..	8	O G Q R							reef of fore topsails.
Noon.	..	..	8		29.19	60	47.57	47.47	9.33	None.	
1 PM.	EbyN	WSW	8	C G							Lizard N52.30E 217 miles.
3	..	..	..	B C Q							5.25 pm. Furled mainsail.
8	..	..	7	C Q P							
				Thursday, April 4th.							
1 AM.	..	..	8 to	C Q P D							
2	..	..	9	..							
4	..	..	7 to	..							
5	..	NW	8	..							8.10 am. Furled foretopsail, up
8	..	..	..	O G Q R							foresail and hove to.
10	..	..	9	O Q P							
11	Hove to.	..	10	..							
Noon	..	..	..	B C Q			49.44	49.46	5.18	None.	
1 PM.	EbyN	WbyS	7	C M							Eddystone Light-house N56E 49
6	..	..	6	C M							12.30 Out 3 reefs foretopsail.
Midt.	..	..	..	B C M Q							5.30 Eddystone SE ½ mile.

H. M. Sloop COLUMBINE, Capt. J. C. Dalrymple Hay, R.N.
China to Plymouth.

Time.	Wind.	Force.	Weather.	Bar.	Th.	
			Wednesday, April 3rd.			
2 am.	WSW	7	B C	29,05	58	
5	SSW	..	C O	.05	58	
6	..	8	O C D	28.99	58	
11	..	9	Q O M D	28.95	59	Noon. Lat. 49.34 Long. 6.17
2 pm.	SW	..	O M D	.98	59	At 2 pm. brought the ship to
5	..	..	Q C R M	.89	61	the wind, it being unsafe to run
8	..	..	Q C M	.87	61	for the land.
11	..	..	Q C M D	.90	58	A heavy sea.

(H. M. Sloop Columbine continued.)

Time.	Wind.	Force.	Weather.	Bar.	Th.	
			Thursday, April 4th.			
2 am.	SWbyW	9	Q M D	28.82	58	
5	W	8	C	.80	57	
8	WNW	10	Q M R	.83	57	8 am. Most violent squalls and
11	..	9	Q C M B	.95	58	heavy sea ; still lying to.
2 pm.	WbyN	8	B C Q	29.11	56	Noon. Lat. 49.40 Long. 4.31
5	..	..	..	.28	55	
8	..	7	B C	.30	56	10.40 pm. Anchored in Ply-
11	..	..	..	.40	56	mouth Sound.

Thos. Kerr, Acting Master.

R. M. W. I. St. P. Co. St. Ship TEVIOT.

St. Thomas to Southampton.

Tuesday, April 2nd.

Noon. Lat. 46,52 Long. 12,10.

Wednesday, April 3rd.

4 a.m. Bar. 29,11 Moderate breezes SW cloudy with rain. 8 am. Bar. 29 Strong SW breeze and thick weather with constant rain. 10 am. increasing breeze and thick squally weather with rain, Noon. Lat. 48,42 Long. 7,25 Bar. 28,76 Fresh gale SSW with heavy squalls and thick weather. 4 pm. Bar. 28,95 6 pm Decreasing gale, weather clearing. 8 pm. Bar. 28,96 Steady moderate gale & cloudy.

Thursday, April 4th,

Noon. Lat. 50,27 Long. 2,52.

Abstract of the ISABELLA BLYTH's Journal, T. B. Hale, Commander.

London to Mauritius.

(Communicated by Messrs. H. D. and Jas. Blyth and Greene.)

April	Lat.	Long.	A Th.	W			6AM.	Noon.	6PM.	Midt.
2nd,	49.22	10.57	52	52		Wind.	W	S	S	S
						Bar.	28.70	28.80	28.80	28.75
3rd.	48.48	8,58	54	54	SW gale	Wind.	SW	SW	SW	SW
						Bar.	28.90	28.70	28.80	28.85
4th.	49.01	10.03	54	54	Heavy SW gale.	Wind.	W	SW	SW	W
						Bar.	29.30	28.80	28.70	28.90

Bark ORISSA, Wm. M'Cann, Commander.

London to Singapore.

Time.	Course.	Wind.	
			Tuesday, April 2nd.
AM.	SSW	W	am. Moderate and clear, with heavy sea. Lat. Obsd. 37,12 (Long. by estimate 15,00) pm. Fresh breeze and cloudy, with heavy Westerly sea. Midnt. Moderate and hazy.
			Wednesday, April 3rd.
10AM.	NW by W		am. Moderate and clear. Noon. Lat. Obsd. 36,23 (Long.
PM. 8		SWtoW	by estimate 15,00) pm. Moderate breeze and cloudy. Squally. Midnt. Squally, with lightning.

(Log of Orissa continued.)

Thursday, April 4th.

6AM. NE WSW Noon. Light airs, with heavy Westerly swell. Noon. Lat.
8 S Obsd. 36,25 (Long. by estimate 15,00)
PM. SSE SW pm. Light airs. Fine clear weather. 8. Calm and cloudy.

Pen. and Or. S. N. Co. S.S. EUXINE.

Southampton to Constantinople.

Time. Wind.

Wednesday, April 3rd.

Noon. Off Lisbon. Heavy sea, but decreasing, with hazy weather
PM. SSW turning at 6 pm. to drizzling rain. Barometer rising 29,81 29,90

Thursday, April 4th.

Fresh breeze and drizzling rain. At 4 am. Long SW swell.
Bar. 29,98 30,08 30,02 Noon. Off Cape St. Vincent.
Noon. Calm. Lat. DR 36,58 Long. DR 8,42 Calm. Long NW swell.

Pen. and Or. S N Co S S MONTROSE, T. Bowen, Commander.

Vigo to Lisbon.

Time. Wind. Bar.

Tuesday, April 2nd.

5,20 pm. Proceeded out of Vigo Bay.
Midnt. 29,60 Midnt. Strong winds and squally, with rain at intervals.

Wednesday, April 3rd.

4AM. swbys 29,60 4 a.m. Strong winds and squally, with a heavy head sea.
8 29,60 8 a.m. Fresh gale & thick hazy weather, with rain at times.
Noon. sw 29,60 Noon. Fresh gale and dark cloudy weather, with a confused
PM. 29,76 sea. Lat. 40,38 Long. 9.20 pm. Strong gale, with a high
6 29,68 sea and thick misty weather. 6 pm. Strong breezes and
8 29,74 hazy weather. 8 pm. Strong gales with a head sea & con-
Midt. 29,80 stant rain. 8,50 pm. Exchanged blue-lights with a large
Steamer steering Northward. 10 pm. Moderating. Midnt.
More moderate, with a heavy confused sea.

Thursday, April 4th.

4AM. 29,80 am. Squally, with rain and thick hazy weather. 4 am.
Moderate winds, with a heavy sea from the Westward. 8 am.
8 w 29,85 Moderate Westerly winds, with heavy Westerly swell.
8,30 am. Saw the land about Ericeira bearing SEbyE very
thick. Noon. At single anchor off Cascayes; dense fog.
pm. Light winds and hazy weather. 1,15 pm. More clear;
weighed and proceeded onwards slowly, both leads going.
4,15PM. 29,90 2,40 pm. More clear; set on full speed up the Tagus.
Midnt. Vble. 4,15 Shackled to the buoy. 8 pm. Light winds and fine.

Jeremy Collier Angove, Chief Officer.

Penin. and Orient. Co. S. S. POTTINGER, from Gibraltar to Southampton.

Time. Wind. Bar,

Tuesday, April 2nd.

Midnt. SW 29,64 Midnt, Moderate and cloudy.

Wednesday, April 3rd.

am. SSW am. Fresh wind and hazy weather. 8 am. Fresh gales,
4 29,55 thick weather. Noon. Do. weather. Lat. 43,35 Long.
8 29.50 10.27 pm. Strong wind and heavy sea; clear sky overhead,
Noon. 29.49 heavy horizon. Midnt. Do. weather.
pm. SW
4 29.34
8 WSW 29.30 Midnight 29.30

Thursday, April 4th.

am. W am. Strong gales at W, and hard squalls, with heavy sea running.
3 29.28 3.30 am. A sea struck the port-quarter boat & broke
8 29.29 her in two. 8 am. A sea broke some of the iron work of
Noon. 29.46 side ladders. Noon. More moderate. Lat. Obsd. 47.26
pm. WNW By Acct. 47.45 Long. Acct. 7.15 Chron. 6.53 pm. Strong
4 NW 29.56 wind and heavy sea running. 3 pm. More moderate; set
8 29.50 the outer jib and main-trysail. Midt. Do. weather.
Midnt. 29.67

Friday, April 5th.

4am. 29.69 am. Fresh winds, fine weather & hazy horizon. 4 am. Strong
8 29.70 winds. 11 am. Portland E¼N, distant 15 miles. Noon. Do.
Noon. 29.77 weather. Portland NEbyE, 5 miles.

R. M. West India Steam Packet SEVERN, Wm. Vincent, Master.
Southampton to the West Indies.

Time. KF Wind. Bar.

Tuesday, April 2nd.

4 7 SSW 29.28 3.10 pm. Proceeded down the river, 8. Fresh
Midt. 7 .30 breeze & cloudy. Midt. Fresh breeze, with rain.

Wednesday, April 3rd.

AM. W 6.2 SW .30 am. Moderate breeze and cloudy, wind increasing
Noon. 6.4 30 towards Noon. Noon. Strong increasing breeze,
2 W½W with drizzling rain and heavy head sea running.
4 5 .24 Lat. DR. 49.53 Long. DR. 4.29 4 pm. Strong
increasing breeze with frequent heavy squalls.
8 W½S 3.4 6. Hard squally weather; ship rolling heavily and
Midnt. 4 .23 shipping much water. 8. Same weather. 10. Do.
Midt. Fresh gale, with heavy squalls of wind & rain

Thursday, April 4th.

AM. 2.4 am. Hard squalls, with heavy rain, ship rolling &
2 2.4 WSW labouring much. 3.15 Kept ship's head to S, and
4 SWbyS 2.4 W .20 set the main trysail. 4. Strong gale, with dark
8 3. .19 overcast weather and a heavy head sea. 8. Strong
gales, with heavy squalls of wind and rain, high
Noon. SW½S 3.4 .26 head sea. Noon. Do. Ship rolling and labouring
PM. WbyN very heavily. Lat. DR 49.3 Long. DR 5.20
4 .35 pm. Do. do. do. 4 pm. Decreasing breeze &
8 W½N .46 cloudy, with a heavy swell. 6. Sea going down.
Midnt. .53 8. Fresh breeze and cloudy. Midnt. Fresh & fine.

Friday, April 5th.

AM. W½N 4.4 WNW am. Breeze moderating. Fresh and fine weather.
4 4.4 .71 6. Same weather. Noon. Moderate breeze & hazy

(Log of Severn continued.)

8 [illegible] weather. Lat. DR 48.7 Obsd. 48.18 Long. DR
Noon. [illegible] 6.55 By Chro. 6,44 pm. Light airs and hazy.
Wm. Vincent Junior, Midshipman.

[illegible] Mauritius to England. John Middleton, Commander.
(Communicated by Messrs, H D & Jas. Blyth& Greene,)

Time. Wind. Bar.
Wednesday, April 3rd.
6 AM. sbyw 29,90 am. Moderate and cloudy. 5,30 Wind veered to SbyW and increased to a strong gale, with hard squalls and rain,
Noon. ssw 80 shortened sail to close-reefed topsails. Noon. Do. weather,
6PM. sw 70 Lat. 49,25 Long. 8,15 6 pm. Bore up. 9 pm. to Midt.
Midnt. sbyw 65 Hard gale and continued squalls and rain, with high sea.
Thursday, April 4th.
6 AM. wbyN 80 am. Hard gale and squalls; a most tremendous sea, shipping much water on deck; seas over all, washed off part
Noon. w 29,10 of the bulwark. 8 am. Gale more moderate. Noon. Less
6PM. wbyN 30 sea; fresh gale and clear. Lat. Obs. 49,22 Long. 5,23
Midnt. wbyN 46 Midnt. Saw the Start Light N 18 miles.
Friday, April 5th.
6AM. wbyN 60 am. Fresh winds & clear; out reefs. 3 pm. St. Catherine's
6PM. 70 Point N 10 miles. Moderate and clear.

R. M. Steamer COURIER, Southampton to Jersey.

Wind.
Wednesday, April 3rd.
SW Noon. In Southampton Dock. Brisk gale and rain at intervals.
SSW Midnight. Do. increasing. Started from Southampton.
Thursday, April 4th.
2 am. Heavy gales. 2.25 Bore away for Yarmouth Roads, and at 2.50
WSW came to anchor there. Noon. Do. weather. 9 pm. More moderate.
W 10.40 Weighed and proceeded. 11.20 Found so much sea running on the Bridge, bore up for Hurst Roads, and came to anchor at 11.40 Brisk gale and cloudy weather.
Friday, April 5th.
WbyN 4 am. More moderate. 5.30 Weighed anchor and proceeded. Noon. Brisk gales and cloudy. Caskets bearing S distant 12 miles. 2.30 Arrived at Guernsey. 4 pm. More moderate and fine. 5.15 Arrived at Jersey.

The continuation of this Storm will be found in the Light-House Tables at the conclusion of Storm E.

§ VII.

Storms *D*—D.*

Ship HASHEMY, from Madras to England.

(Communicated by Messrs. Heath and Palmer.)

Time.	Course.	Wind.	
			Friday, April 5th.
AM.	EbyN	N&E	am. Moderate breeze, clear; sea going down. 8. Light wind, fine. Noon. Lat. Obs. 30,15 Long. 33,46
PM.		N	pm. Light wind, fine. 8. Light increasing breeze, fine weather. Midnt. Light winds. Fine.
			Saturday, April 6th.
AM.		N&W	am. Increasing breeze. Fine. 4. Moderate breeze. Fine. Fresh breeze, cloudy. 8. Fresh breeze, fine. Noon.
Noon.		NW	Strong breeze, fine. Lat. Obsd. 31,41 Long. 33,10.

Brig BRILLIANT, at Madeira.

(Communicated by Capt. J. B. Caldbeck.)

April 5th, SW, NW, a. m, Light winds and cloudy. Latter part. Do. weather.
6th, a.m, W. South. NW. Light winds and cloudy. Noon. Strong breeze and clear, latter part calm and clear.
7th, NW. a.m, Light airs.

Bark ORISSA, Wm. M'Cann, Commander.

London to Singapore.

Time.	Course.	Wind.	
			Thursday, April 4th.
Noon.	SSE	SW	Noon. Lat. Obsd. 36.25 (Long. by estimate 15,00)
6	WbyN	Calm.	Midnight. Calm and cloudy.
			Friday, April 5th.
4AM.	W	S	2 pm. Light air from the Southward. Noon. Light breeze &
10		SSW	cloudy. Lat. Obsd. 36,12 Long. 15,00 pm. Light breeze
PM.	WNW	SW	and cloudy. Midnight. Calm and cloudy.

Log of Orissa continued.)

Saturday, April 6th.
am. Light breeze from Southward. 10. Squally.
Noon. Light breeze and cloudy. Lat. Obsd. 35.55 (Long. by estimate 15,00) pm. Light variable winds with passing showers. 10. Squally.
Sunday, April 7th.
am. Fresh wind and clear. 6. Wind veered to Westward.
Noon. Lat. Obsd. 34.24.
[illegible] bearing about S, and Cadiz about N of E more or less. Ed.]

and Or. S N Co S S MONTROSE, J. Bowen, Commander.
Southampton to Gibraltar and back.

[illegible]		Wind.	Bar.	Th.	
					Friday, April 5th.
[illegible]		SW	29,90		am. Light winds and fine. 11.10 Proceeded down
[illegible]		SSW			the Tagus. Noon. Making all possible sail down
4pm.	9.4	WNW	,88		the river. 4 pm. Steady breezes and hazy.
[illegible]		S	,90	70	8 pm. Light variable winds and cloudy.
Midt.		NE	,90		Midnt. Moderate and hazy.
					Saturday, April 6th.
4am.		E	,88	63	am. Moderate winds, hazy at times.
8am.	9.4	Ely	29,70		Moderate winds and cloudy.
Noon.	9.4	SW	,89	74	Noon. Lat. 36,28 Long. 6,34 1 pm. Anchored
4pm.			,76	71	at Cadiz. 4.50 Proceeded onward for Gibraltar.
8pm.		SSE	,72		8 pm. Moderate and cloudy. 9 pm. Strong winds and hazy.
Midnt.			,74	69	Midnight. Strong breezes and fine.
					Sunday, April 7th.
am.		E			am. Fresh breezes & fair. 1.55 Anchored in Gib-
4am.		Vble.	29,80		raltar Bay. 4 am. Moderate breezes and cloudy.
Noon.		NW	29,75		Noon. Variable winds and cloudy.

Penin. & Ori. Co. St. Ship EUXINE, Southampton to Constantinople.

Time.	Wind.	Bar.	Th.	
				Thursday, April 4th.
Noon.	Calm.	30,02	69	10.15 am. Rounded Cape St. Vincent, distant 4 miles.
4pm.		,08	75	
Midnt.	N	,02	70	Light Northerly airs, and fine weather with smooth sea.
				Friday, April 5th.
4am.	SE	29,99	69	At 3 am. light SEly airs and fine.
8		30,10	72	7 am. Came to anchor in Bay of Gibraltar.
Noon.	Calm.	,20	75	Noon. Hot sultry weather.
4pm.		,10		pm. Fine weather.
8		,00		
Midnt.		,00		11,30 Set on for Malta.
				Saturday, April 6th.
am.	Calm.	,00	69	am. Calm. Fine, clear, pleasant weather. Bar. steady.
Noon.		30,00	71	Noon. Lat. Obs. 36,20 Acc. 36,25 Long.Acc. 3,04 w
4pm.		29,94	72	4pm. Calm, fine weather. 6. Light airs, smooth water.

(Log of the Euxine continued.)

8			,90	70	8. Light airs and hazy on the horizon.
Midnt.			,90	73	10. Light variable breeze and lightning to SE
					Sunday, April 7th.
am.	ESE				am. Calm and hazy. At 2 hearing a hailing and shout-
					ing on the starboard quarter, went round on our heel.*
	to				2,10 Not seeing any thing proceeded on our course,
4			,82	71	concluding that the sounds came from a vessel in sight
8	ENE,		,85	73	at a considerable distance off. Noon. Lat. Obsd. 36,48
Noon.			,83	73	Acct. 36,52 Long. Acct. 1,19 E Chr. 1,10 E

* I have copied this paragraph in reference to the Storm, which I conclude to have been lying away to the Southward, and as an instance of the distance to which sound is carried, and the clearness with which it is heard previous to a Thunder storm.

SEA PARK, Thos. Humphris, Commander.

Calcutta to England.

(Communicated by Messrs. D. Dunbar & Sons.)

Time.	Course.	Wind.	Bar.	Th.	
					Thursday, April 4th.
Noon.	ENE	N	29.90		Noon. Lat. Obsd. 43,6 Long. Chr. 21,20.
4PM.		SSE			Light Northerly airs, and fine.
6		Sly			p.m, Wind freshening. 9. Strong breezes. Pass-
7		EbyN			ed the Barque HELENA with jib boom gone, close
					alongside. Midnight. Strong increasing breezes
					and cloudy.
					Friday, April 5th,
					2 a.m. In topgallant sails. 4. Thick gloomy wea-
6		SW			ther. 6. Threatening weather and heavy squalls,
					wind hauling to the SW and increasing to a gale,
					with thunder and lightning, Barometer falling.
					In 1st and 2nd reefs of topsails, hauled jib and
					mainsail. 8. Blowing a gale with hard squalls.
10		NW			10. More moderate, Wind hauling to the NW
					and clearing up. Noon. Fine brisk gale and clear.
Noon			29,80	60	set main topgallant sail. Lat. 44,22. Long. Chro.
PM.		W			19,11 1 p.m. Out 2nd reefs and set lower and
4		WbyN			fore topmast studsails on the port side. 8.30. In
6		WbyS			studsails. 9. In topgallant sails. Midnight. In-
					creasing to a gale, in 2nd reef of the topsails.
					Saturday. April 6th.
4AM.		SW			4 am. Strong breeze and squally, drawing to
					Southward. 5. Set main topgallant sail and main
					sail. 8. Set jib and driver. Noon. Strong breezes
Noon,			29,75	60	and fine. Lat. Obsd. 45.56 Long. Chr. 15.38
PM,	WSW				pm, All these 24 hours a brisk steady gale and
					hazy. Midnight. Strong winds and fine.
					Sunday, April 7th.
					4 am. Drizzling rain. Do. Gale. Noon. The un-
					favourable state of the weather prevented the per-
Noon.			29,63	60	formance of Divine Service. Noon. Lat. Obsd.
					47,26 Long. Chro. 11,48,

Abstract of the ISABELLA BLYTH's Journal, T. B. Hale, Commander

London to Mauritius.

(Communicated by Messrs. H. D. and Jas. Blyth and Greene.)

April	Lat.	Long.	A Th.	W			6AM.	Noon.	6PM.	Midt.
5th.	47.16	10.17	54	52		Wind.	S	W	WNW	Calm.
						Bar.	29.95	29.50	29.69	29.90
6th.	45.29	9.19	54	55	Strong SW winds.	Wind.	SW	SSW	SW	SW
						Bar.	29.80	29.90	29.85	29.80
7th.	46.00	12.21	55	55	SW Fresh gales.	Wind.	SW	S		
						Bar.	29.50	29.75	29.70	29.60

R. M. West India Steam Packet SEVERN, Wm. Vincent, Master.

Southampton to the West Indies.

Time.	Course.	Wind.	Bar.	
				Friday, April 5th.
Noon	W½N		29,76	Noon. Lat. Obsd. 48,18, Long. Chro. 6,44,15.
4		SE	.73	Barometer falling. p.m. Light airs and hazy
8		SbyW	.69	weather. 4. Fresh breeze and squally. 8. Do do
9		WbyS		with heavy rain. 10. Heavy rain and squalls. In
Midnt.		W	,67	all sail. Midnt. Fresh breeze with heavy squalls
				and constant rain.
				Saturday, April 6th.
AM.			,60	am. Moderate breezes and fine weather. Noon.
				Lat. Obsd. 47.17 Long. by Chron. 10.11 pm.
4pm.	W		,57	Fresh breeze and cloudy. 4. Do. with head sea
				on. 6. Set fore and main trysails, inner jib, and
8		WbyS,	,57	fore staysails, ship labouring. 8, Strong breeze
Midnt.			,58	and cloudy. Midnt. Do. & dark overcast weather.
				Sunday, April 7th.
				Noon. Lat. Obsd. 46,52 Long. Chro. 12,48.

London and New York Liner, WELLINGTON, Charles Chadwick, Commander.

New York to London.

		Lat.		Long.
Wed.	April 3rd.		44,12	41,35
Th.	4th.		44,48	37,06
Fri.	5th.		45,18 DR	34,18
Sat.	6th.		46,25	32,32
Sun.	7th.		47,25	28,35

Abstract Log of Schooner ROLLO, from Jersey to Newfoundland.

[Reduced from Nautical to Civil Time. Ed.]

(Communicated by C. Loquesne, Esq.)

Time.	Lat.	Long.	Wind.	Weather.
Apr. 5th,	47,35	26,35	W Vble	Fresh gale and squally, with rain.
6th,	47,23	28,29	Vble N	Ditto do. do.
7th,	46,21	29,31	Vble	Strong breeze & squally with rain at times.

Schooner OCEAN, from Jersey to Newfoundland.

(Communicated by C. Lequesne, Esq.)

Thursday, April 4th.

8. pm. More moderate.
Noon. Lat. Obsd. 49,33 Acct. 48,28 Long. Acct. 17.56
2pm. SW NbyW Chro. 17.56 Continuation of gales and squally, with a heavy
head sea. 10 pm. Light winds and clear weather; let 2nd
reef out of foretopsail, and set fore top gallant sail, and let
the reef out of the square mainsail. Midnt. Clear and fine;
tacked ship to the Northward.

Friday, April 5th.

4am. WbyN SSW 9 am. Fresh gales and squally, with hard rain. Noon. Lat.
10 SWbyS DR 47,55 Long. DR 19,28 Wind chopped round to the
2pm. WNW West, with a strong gale. pm. Continued gale, with heavy
head sea on; ship labouring very much. 8 pm. Fresh gales
and thick weather. Midt. Light winds, with heavy showers.

Saturday, April 6th.

8am. SW 9 am. Fresh gales, with hard rain. Handed the maintop-gallant sail. and double reefed the main-topsail. 11 am.
Heavy squalls, stowed the jib, handed the mainsail. Noon.
Lat. DR 48,30 Long. DR 21,10 Chr. 21,13 Blowing a
hurricane, handed the foretopsail and foresail, and close
2pm. NbyE WbyN reefed the main-topsail. 2 pm. Hard gales of wind and
squally weather, with small rain. Set the main-staysail.
3 pm. Heavy squalls, the wind blew the fore-trysail. Stowed
main-staysail. 4 pm. Wore ship to the Southward. 4,30
6 SSW NWbyW Vessel dipped the jolly boat under. 6 pm. Set the main-staysail. 8 pm. More moderate; set the reefed foresail.
9 pm. Do. weather, set the double-reefed foretopsail. Midnt.
Moderate gales and cloudy; set the main-trysail.

Sunday, April 7th.

6 am. Light winds and cloudy; set the square mainsail and jibs. 7 am. Out all reefs of the topsails and main-trysail, set the fore and main topgallant sails, Lat. DR 48.11 Obsd. 48.12 Long. 21.08

Log of H. M. Ship CROCODILE, at Cork.

(Communicated by their Lordships the Commissioners of the Admiralty.)

Time.	Wind.	Force.	Weather.	Bar.	Th.
		Friday, April 5th.			
Noon.	Vble.	3	..		
4pm.	SW	3	b c o		
8.	S	3	c	29,80	56
Midnt.	to SW	Vble.	b c		
		Saturday, April 6th.			
4am.	W	4	b c		
8		3	..	29,54	53
10			m p		
4pm.	W	4	m r		
8	WSW	..	..	29,51	51
Midnt.	N	5	..		

NAUTILUS, W. A. Davidson, Commander.
From Cork to Bristol.
(Communicated by Messrs. H D & Jas. Blyth & Greene.)

Saturday, April 6th.

Fresh and squally, with rain. 4 am. Fresh gales and hard squalls. Noon. Flat Holm EbyN. 6 pm. Came to in King's Road. Light winds and rain.

W. A. Davidson, Commander.

Contract Steam Packet AMERICA, Liverpool to Halifax.
(Communicated by their Lordships the Commissioners of the Admiralty.)

Henry Beddek, Admiralty Agent.

Time.	Wind.	
		Saturday, April 6th.
Noon.	WbyS.	3 pm. Proceeded down the Mersey full speed, 3.11 Passed Rock
pm.	SW	Light, 3. 55 Formby Light, 4.22 Bell buoy. 8. Moderate breezes and hazy weather. 9.20 Skerries Light SSW½W. 10. Dense fog. 10.30 Fog cleared away. 10.35. S Stack EbyS. Midnt. Fresh breezes and thick weather with rain.
		Sunday, April 7th.
am.	SW	Fresh breezes; thick weather with rain. 4. Increasing breezes with rain. 8. Fresh breezes and cloudy weather. Made Tuskar
pm.	SSW	bearing WbyS. Noon. Kinneybeg E½N. pm. Do. breezes. 4. Thick weather with rain. Midnt. Moderate and hazy weather. Cape Clear Light N.

London and New York Liner SOUTHAMPTON, E. E. Morgan, Commander.
London to New York.

Time.	Course.	Wind.	
			Saturday, April 6th,
2am.		S	2 am. A breeze from South 9 am. Wind hauled Westerly.
Noon.		W	Noon. Tacked. Start Point bearing NWbyW, Moderate about W. pm. Moderate winds and pleasant weather. 4 pm Tacked to NW.
			Sunday, April 7th.
8am.		WSW	8 am. Saw the Lizard WbyN distant 10 miles; tacked. Noon. Light winds and pleasant weather.

DUKE OF CORNWALL, from China to London.
(Communicated by Messrs. Heath and Palmer.)

Time.	Course.	Wind.	Bar.	
				Friday, April 5th.
				Noon. Lat. Obsd. 50,27 (Long. off the Coast of Devonshire.)
				Saturday, April 6th.
am.	EbyS	S		am Light breezes. Dark gloomy weather. 5. Wind
5		SSW		freshening. Strong breezes, with rain and gloomy
9		SW		weather. Noon. Moderate breeze, hazy. St. Ca-
6pm.		SW		therine's NbyW pm. Moderate breeze. Cloudy. 8. Moderate breeze. Clear. Midnt. Light breezes. Hazy. Dungeness light bearing ENE½N.

R. M. Steamer COURIER, Jersey to Southampton.
Saturday, April 6th.

SW am. Strong breezes and cloudy. 6.15 Started from Jersey. 8.25. Arrived at Guernsey. 8.45. Proceeded. 9.50. Abreast of the Caskets Noon. Fresh breezes and hazy. 3.30. pm. Abreast of the Needles. 5.5. Arrived at Southampton.

The continuation of this Storm will be found in the Light-House Tables at the conclusion of Storm E.

§ VIII.

Storm *E*.

NEW YORK.

April 3rd. pm. & morning of 4th. A South-Easterly Storm at New York. Bar. (lowest observed) at 7 am. on the 4th, 29,37 Continued stormy throughout 5th and 6th.
W. C, Redfield.

W. I. R M. St. Packet Company's Ship MEDWAY.
In Mobile Bay, (Lat. 30.50 Long. 88,30 W.)
Sunday, March 31st.

Noon.	NEtoE	29,96	Light breezes and fine.
Midnt.	E	,98	Moderate breezes and fine.
			Monday, April 1st.
6AM.	ESE	,93	Increasing do. Do.
Noon.	E	,90	Strong and cloudy. Fresh gale, heavy sea on the bar.
6PM.		,94	Strong gale (with heavy sea) but moderating.
Midnt.		,90	Strong breeze.

Abstract from Log of Brig VELOCITY, Capt. Holmes.
From Oporto to Philadelphia.
(Communicated by Messrs. Newman and Hunt.)

Date	AM.	PM.	Lat.	Long.	Remarks.
Apr. 2nd.	NbyE	ESE	33,02	66,29	Strong wind and showery.
3rd,	ESE	WSW	33,33	68,34	a.m. Moderate. p.m. Strong gales.
4th,	WSW	W	34,35	70,09	Strong wind; Vivid lightning.
5th,	SW	S	35,27	71,34	Strong wind and squally.

London and New York Liner MARGARET EVANS, E. G Tinker, Commander
From New York to London.

	Lat.	Long.	Bar.	Th.	AM.	Noon.	P.M.	Weather.
2nd.	39,50	63,00	30,20	51		Calm.	W	Light & fine. Calm.
3rd,	40,15	60,30	30	62	W	Calm.	W	Light. Very light, calm, light
4th,	40,30	58,30	39,60	51	wly	Calm.	E	Light and variable. Calm & rain,
5th,	41,00	57,00	29,20	51	W	wly	NNW	Variable & rain. Strong & clear.
6th,	41,00	55,00	29,70	51	NNE	ESE	ESE	Moderate, cloudy. Strong & rain.

London & New York Liner PRINCE ALBERT, F. B. Meyer, Commander.
London to New York.

Wednesday, April 3rd.

Noon. Lat. 40,31 Long. 61,00 5 pm. Wind NW Course NbyE. Midnight. stiff breezes.

Thursday, April 4th.

6 am. Wind hauled North. Set all sail. Course WNW Noon. Light rain and hazy weather. Sun obscure. Lat. 41,30 Long. 62,30 pm. Strong winds from NE, and rainy squalls. 6 pm. Double-reefed topsails, and furled mainsail and jibs. 7 pm. Wind E. Course WbyN. Midnight. Close-reefed mizen topsail.

Friday, April 5th.

5 am. Wind NNE 7 am. Course WbyS 8 am. Weather getting fair, commenced to make sail. Noon. Fine weather wind N Lat. 41,45 Long. 66,25

Contract Steam Packet NIAGARA, Capt. Alex Ryrie.
Boston to Liverpool.
(Communicated by their Lordships the Commissioners of the Admiralty.)

Wednesday, April 3rd.

am. Moderate breeze and fine weather. Noon. Do. weather. 12.30 pm. Cast off from the wharf, and proceeded full speed for Halifax. Midnight. Moderate easterly winds.

Thursday, April 4th.

m. Moderate ESE breezes and cloudy weather. 8. Fresh do., with rain and snow at times. Noon. Strong breezes with rain. Lat. 43.N. Long. 66.W. 4 pm. Strong east breezes with snow. 6. Strong gales with continual snow. 8. Do. weather. Midnight. Strong breezes with heavy snow.

Friday, April 5th.

am. Do. weather. 4. Fresh (variable) breezes and clear weather. 11. Arrived alongside the wharf at Halifax. Noon. Moderate breezes and fine. pm. Do. weather, received the Mails, and at 1.30 set on for Liverpool. N.B. Lying at Halifax HM. Ships Pyramus, and Columbia. 8. Do. breezes ENE. Midnight. Do. SE & cloudy weather.

Douglas Reid, Lieut. RN. Admiralty Agent.

B. and N. American R. M. St. Packet EUROPA.
Liverpool to Boston, U. S.
(Communicated by Messrs. D. & C. M'Iver, of Liverpool.)

		Lat.	Long.	Bar.	Wind.	Force.
Tuesday, April 2nd,	Noon.	43,41	56,46		N	Fresh.
	6 pm.				WNW	Fresh.
	8 pm.			30,00		
	Midnt.				WNW	Fresh.

(Log of Europa continued.)

		Lat.	Long.	Bar.	Wind,	Force.
Wednesday, April 3rd,	6 am.				WNW	Moderate.
	8 am.			29,80		
	Noon.	44,20	63,11		WNW	Moderate.
	6 pm.				WNW	Light.
	8 pm.			29,50		
	Midnight				SWbyW	Moderate.
Thursday, April 4th,	6 am.				SWbyW	Moderate.
	8 am.			30,00		
	Noon.	40,51	66,27		SE	Moderate.
	6 pm.				SW	Moderate.
	8 pm.			30,10		
	Midnight.				WNW	Strong gale.
Friday, April 5th;	6 am.				NNE	More moderate.
	8 am.			30,10		
	Noon.	40,06	70,45		NNE	Moderate.

HERMANN, Steam ship. Bremen to New York.

		Lat	Long.	Bar. Noon.	Midnt.	
Wed.	April 3rd.	43,12	55, 6	29,88	29,85	Fine and pleasant weather.
Th.	4th,	43,06	59,40	29,58	29,58	
Fri.	5th,	42,03	65,13	29,70	29,83	

———— Mate.

London and New York Liner NORTHUMBERLAND, **J. M. Lord, Commander.**
London to New York.

	Course.	Wind.	Bar.	Th.
AM.	W	NNW	29.8	
5	NW	SW		
Noon.	N	WNW	29.6	48
PM.	NbyW	WbyN		
4AM.	WNW ½W	NE		
Noon.			29.	50
PM.	NW			
4	NW byW			
4AM.			29,8	

Thursday, April 4th.

am. Calm. Bar. falling. 4 am. Light breeze from the South, with rain. Set up fore topgallant yard, and set the topgallant sails, flying jib, &c. 8 am. Hard rain; furled the flying jib. Noon. Lat. 41,39 DR Long. 53,48 DR Light breeze and thick weather. pm. Do. do. 4 pm. Do. do. 8 pm. Took in topgallant sails, reefed and furled mainsail. Midnt. Light NE breezes and very foggy.

Friday, April 5th.

4 am. Double reefed the topsails, hard rain and calm weather. 8 am. Do. 10 am. Fine and clear weather with a light breeze. Fine & clear breeze light. Noon. Lat. 41.52 Obsd. Long. 54.37 Chr. Barometer standing. pm. Light breeze and clear weather. 4 pm. Breeze freshens, Barometer commences rising, turned the reefs out of the topsails, set topgallant sails, foggy at times. Midnight, Fine breeze and cloudy weather.

Saturday, April 6th.

4 am. Barometer on the stand. Noon. Lat. DR 42,19 Long. DR 58,10 S. L. Spencer, Mate,

Abstract from the Log of the CHANTICLEER, from Bahia to London.

(Communicated by Messrs. Newman and Hunt.)

Date.	Wind.	Weather.	Lat.	Long.
Wednesday, April 3rd.	NEbyE NE	Calm. Fair.	19,22	42,55
Thursday, April 4th,	NNE NE	Fair.	20,12	43,10
Friday, April 5th,	ENE	Fair.	22,19	43,56
Saturday, April 6th,	ENE E	Fair.	24,38	46,00
Sunday, April 7th,	SE SSE	Fair.	26,28	44,40

Bark FRANCES WALKER, D. F. Hay, Commander.

Calcutta to London.

Time.	Course.	Wind.	Bar.	Th.	
					Friday, April 5th.
Noon.	NE	N	30,34	68	Noon. Lat. 31,39 Long. 35,22 Light airs and fine; breeze increasing. 4 pm. Strong breeze, passing clouds. 8. Squally. Midnight. Strong breeze and hazy.
pm.		W			
Midnt.		WSW			
					Saturday, April 6th.
Noon.			30,15	69	am. Strong breeze, squally & hazy. 8. Increasing gale and squalls. Noon. Strong gale and squalls; high sea, and ship labouring heavily and shipping much water. Lat. 34,20 Long. 34,15 pm. Increasing gale, and heavy squalls and sea; ship labouring heavily. 4. Hard gales and squalls. 8. More moderate aud squalls less violent. Midt. Strong gales and squalls; very high sea.
pm.		Wly			
3	NNE	WNW			
7		NW			
					Sunday, April 7th.
Noon.		Wly	30,13	66	am. Strong gales and squalls. Daylight. More moderate. 8. Fresh gale; hazy. 9. Let one reef out of topsails; wind variable. Noon. Increasing wind, hazy; Ship pitching and labouring heavily Lat. 35,53 Long. 34,35

Ship HASHEMY, from Madras to England.

(Communicated by Messrs. Heath and Palmer.)

Time.	Course.	Wind.	
			Saturday, April 6th.
Noon.		NW	am. Increasing breezes and fine. Noon. Strong breeze. Lat. Obsd. 31,41 Long. 33,10. 6 pm. Strong increasing breeze and cloudy. 10 pm. Strong breeze. Heavy sea. Midnt. do.
pm.	NE	NW	
			Sunday, April 7th.
am.	NE	NW	am. Strong breeze. Squally appearance. High sea, ship rolling much. Daylight. More moderate. 8. Breeze moderate, sea going down. Noon. Fresh breeze. Cloudy. Lat. 34,11 Long. 31,40 pm. Fresh breeze. Fine. 8. Do. Midt. Fresh breeze. Hazy.
			Monday, April 8th.
	NEbyE		am. Fresh breeze, squally. 4. Do. Daylight. Fresh breeze,
11		WNW	fine. Noon. Do. Lat. Obsd. 36,26 Long. 29,30

Brig BRILLIANT, at Madeira.

(Communicated by Capt. J. B. Caldbeck.)

April 7th, NW. West. a.m, Light airs. Noon and pm. Strong winds and cloudy.

8th. West. a.m, Strong winds & cloudy, latter part light winds & misty rain.

9th, NW. SW. NW. Light winds these 24 hours.

10th, NW. West East. Light winds do.

Bark ORISSA, Wm. M'Cann, Commander.

London to Singapore.

Time.	Course.	Wind.	
			Sunday, April 7th.
			[N.B. Madeira bearing about S, and Cadiz about N of E more or less. Ed.]
			am. Fresh wind and clear. 6. Wind veered to Westward.
PM.	S	WbyS	Noon. Lat. Obsd. 34,24 pm. Fresh breeze. Cloudy. 8.
			Wind variable. 10,30 Strong winds, with a very squally ap-
Midt.	SW	WNW	pearance. Midnt. More settled.
			Monday, April 8th.
AM.		Vble.	Noon. Light airs, cloudy. Lat. Obsd. 32,03 pm. Light
PM.		Vble.	breeze, fine. Midnt. Light variable winds, with small rain.
			Tuesday, April 9th.
AM.		Vble.	2 am. Light winds. with small rain. Noon. Moderate
Noon.		NNW	breeze, fine. Lat Obsd. 30,47 pm. Light breeze, cloudy.
Midt.		Vble.	8. Light breeze, small rain. Midnt. Variable. Do. weather

Pen. and Or. S N Co S S MONTROSE, J. Bowen, Commander.

Gibraltar to Lisbon.

Time.	Course.	Wind.	Bar.	Th.	
					Sunday, April 7th,
4PM.		WbyN	29,82	65	pm. Moderate winds WbyN. 4. Increasing
8			,85		7 pm. Weighed anchor and set on for Cadiz.
Midnt.			29,85		Midnt. Do. weather.
					Monday, April 8th.
1am.	NW	NW			am. Light breezes and hazy. 5.45 Anchored in
4			29,88	64	Cadiz Bay. 8 Increasing breeze & cloudy. 10.10
8		SW	29,76	69	Weighed and stood out of the Bay for Lisbon. set
					jib and try sails. 10.30 Struck main topmast.
Noon.			29,76	69	Noon. Lat. Acct. 36,35. Long. Acct. 6,33. Fresh
					breeze with passing showers. pm. Fresh winds &
1	NWbyW	WbyS			dark cloudy weather. 2. Strong winds and squally
4			29,72	66	with rain, in trysails and jib. 4. Fresh breeze and
					fine. 6. Increasing breeze, down topgallant yard.
8			29,80	64	8. Strong breeze and clear, in dead lights. Midt.
Midnt.			29,82	62	Moderate and fine.
					Tuesday, April 9th.
Noon.	9.	NNW	29,90	69	4 am. Fresh NW breezes and clear. Noon. Mo-
4	9.	WNW			derate and fine NNW. 4 pm. Moderate winds
					and dark cloudy weather. 6,29 Shackled to the
8		WSW	29,80	65	buoy off the Custom-house. 8. Increasing breeze
					with dark cloudy weather, with threatening ap-
Midt.		SW	,75	63	pearance to Southward. Midt. Strong winds and
					cloudy, with rain.

Abstract Log of Schooner ROLLO, from Jersey to Newfoundland.

[Reduced from Nautical to Civil Time. Ed.]

(Communicated by C. Lequesne, Esq.)

Time.	Lat.	Long.	Wind.	Weather.
Apr. 7th,	46,21	29,31	Vble. NW	Strong breeze & squally with rain at times.
8th,	45,44	31,14	StoNW	Vble. winds and rain.
9th,	47,3	33,16	toNNW	Strong breeze and squally with rain.

London and New York Liner, WELLINGTON, Charles Chadwick, Commander.

New York to London.

Sun. April	7th.	Lat.	47,25	Long.	28,35
Mon,	8th		47.56		24,36
Tues.	9th.		48.55DR		21,04DR

Schooner OCEAN, from Jersey to Newfoundland.

(Communicated by C. Lequesne, Esq.)

Time. Course. Wind.

Saturday, April 6th.

Noon. Lat. 48,30 Long. 21,13

Sunday, 7th April.

6 am. Light winds and cloudy, set the square main sail and jibs. 7 am. Out all reefs of the topsails and main trysail, set the fore and main topgallant sails. Noon. Lat. Obsd. 48,12 DR. Long. by Acct. 21,05 Moderate breezes and cloudy.
PM. 2 W NNW Moderate breeze with fair weather for the most part, latterly light winds and cloudy. Midnight. Clear and fine.

Monday, 8th April.

4 am. Light winds and cloudy. Noon. Lat Obsd. 47,22 DR. 47,24 Long. Chro. 22.31 DR. 22,46 Moderate breezes and squally weather, sent the main royal yard up and set
PM. 2 SW WNW the sail. Moderate breezes and fine with smooth water.
8 NW SW 7.50 pm. Tacked ship to the Northward. Midnight. Moderate breezes and fair.

Tuesday, 9th April.

2 am. Strong breezes and rainy, hauled the main royal and fore and main topgallant sails. 5 am. Do. weather. Lat. 47,01 Long. DR. 24,47 Chr. 24,34.

SEA PARK, Thos. Humphris, Commander.

Calcutta to England.

(Communicated by Messrs. D. Dunbar & Sons.)

Time. Course. Wind. Bar. Th.

Saturday, April 6th.

Noon. Lat. Obsd. 45.56 Long. Chr. 15.38

Sunday, April 7th.

4 am. Drizzling rain. Do. Gale. Noon. The unfavourable state of the weather prevented the per-
Noon. 29,63 60 formance of Divine Service. Noon. Lat. Obsd. 47,26 Long. Chro. 11,48,
pm. A strong increasing SW gale. Bar. falling

pm.	7,4	SW			fast, and clear weather. 10. Increasing breeze.
10	7,4	Sly			Ship very uneasy. In jib and mainsail.
					Monday, April 8th.
					4 am. Cloudy and rain. 10. Gloomy weather.
					11. Down mizen topgallant and foretop-gallant
					yards. Noon. Sounded. No ground at 80 fms.
6		SSE			Lat. Obsd. 48,32 Long. Chr. 9,7 5 pm. Clearing
			28,85	58	up; let the 3rd reef out of the mainsail, and set
PM,	E	WbyN			the main-topgallant sail. 8. Increasing to a gale.
					Clewed up and handed the main-topgallant sail,
					and took in the 3rd reef of the main-topsail.
					Midnt. Blowing a full gale of wind, the ship
					rolling hard, and shipping heavy seas over all.
					Tuesday, April 9th.
4am.			29,20		From Midnt. blowing a full gale, with very hard
					squalls, and a high following sea. Moderating to-
					wards morning. Noon. Lat. Obsd. 49,31 Long.
					Chr. 4,53 pm. Strong breeze and foggy weather.
					9. Out 2nd and 3rd reefs of main-topsail, and set
					main-topgallant sail. Midnt. Fresh breeze & fine
					Wednesday, April 10th.
					am. Do. weather. 5. Out all reefs topsails; sent
					aloft fore and mizen topgallant yards, and made
		SSE			all possible sail upon a wind. Noon. Moderate
					SSE breeze and fine clear weather. Lat. ,
					Long. , [Distance run since Noon of prece-
					ding day, 128 knots Eastward; Off the Isle of
					Wight. Ed.]

J. Maude, Chief Officer.

R. M. West India Steam Packet SEVERN, Wm. Vincent, Master.

Southampton to the West Indies.

Time.	Course.		Wind.	Bar.	
					Saturday, April 6th.
Midt.				29,58	Noon. Lat. Obsd. 47,17 Long. by Chro. 10,11
					Sunday, April 7th.
4		5	SW	,49	am. Fresh breeze and cloudy. 8. Do. with driz-
8		5		,47	zling rain. Noon. Do. weather. Noon. Lat. Obsd.
Noon		5		,33	46,52 Long. by Chron. 12,48 pm. Do. weather.
4		5		,27	10,30 A sudden shift of wind from SW to NW.
8	W	5		,25	with heavy squalls & constant rain. Midnt. Fresh
Mid.	WNW	4	NW	,21	gale with high confused sea, ship rolling and
					labouring much.
					Monday, April 8th.
4	W	6	N	,20	am. Fresh Northerly breeze, with continual heavy
8	W½S	6		,27	squalls. 4. Strong breeze and cloudy. 8. Weather
10	WbyS	6	NNW		moderating. Noon. Moderate breeze and fine
Noon		6		,31	weather. Lat. DR 46.1 Obsd. 45,35 Long. DR
2			WNW		15,7 By Chron 15,20 [She must have been
4	W½N	6	NW	,35	set to Southward 26 miles. Ed.] pm. Moderate
8		6.4		,40	breezes and fine weather. 8. Do. do.
Midt.		7	W	,50	Midnt. Do. weather.

(Log of Severn continued.)

Time.	Course.	Wind.	Bar.	
				Tuesday, April 9th.
4am.	6	SW	29,44	am. Moderate breeze and cloudy. 6. Drizzling
8	7		,50	8. Squally. Noon. Lat. Obsd. and DR 44,13 Long. DR 18,25

Wm. Vincent, Junr. Midshipman.

Abstract of the ISABELLA BLYTH's Journal, T. B. Hale, Commander London to Mauritius.

(Communicated by Messrs. H. D. and Jas. Blyth and Greene.)

April	Lat.	Long.	A Th.	W			6AM.	Noon.	6PM.	Midt.
7th.	46.00	12.21	55	54	SW Fresh gales.	Wind.	SW	S		
						Bar.	29.50	29.75	29.70	29.60
8th.	45.34	12.48	55	55	HeavyWNWgales	Wind.	NW	S	WNW	NW
						Bar.	29.45	29.30	29.20	29.30
9th.	43.17	12.22	55	55	Strong Wly winds	Wind.	SW	NW	WNW	NW
					at Noon SW	Bar.	29.75	29.50	29.60	29.75

Contract Steam Packet AMERICA, Liverpool to Halifax.

(Communicated by their Lordships the Commissioners of the Admiralty.)

Henry Beddek, Admiralty Agent.

Time.	Wind.	
		Monday, April 8th
AM.	S	am. Moderate Southerly breeze and hazy weather. 0.44 Cape Clear Light NNE½E 8 miles. 4. Hazy. 8. Fresh breezes with
	ENE	heavy rain. Noon. Stiff gales ENE and hazy weather. [Wind am. ENE.; it is not stated at what hour the wind had changed.]
PM.	NE	Lat. 51.9 Long. 12.10. pm. Brisk gales with heavy squalls NE
	N	8. Strong breezes & squally weather. Midnight. Moderate breezes and cloudy.
		Tuesday, April 9th.
AM.	N	am. Moderate and cloudy weather. 4. Cloudy weather. 8. Mod-
Noon.	S	erate and fine. Noon. Lat. 50.26 Long. 17.54 Do. weather.

Log of H. M. Ship CROCODILE, atCork.

(Communicated by their Lordships the Commissioners of the Admiralty.)

Time.	Wind.	Force.	Weather.	Bar.	Th.
			Saturday, April 6th.		
8PM.	WSW	4	M R	29,51	51
Midnt.		5	..		
			Sunday, April 7th.		
4AM.	W	4	M R		
8	WSW	..	..	29,46	54
4PM.	SSW	4	O M		
8	..	..	M R	29,42	57
10	Vble.	..	..		
Midnt.	SE	2	C		

Monday, April 8th.

4AM.	SE	4	C		
8	..	..	O M R	29,25	50
Noon.	SSW	..	..		
4PM.	SE½E	4	O M P		
6	Vble.	..	..		
9	EbyN	..	..	29,50	57
Midt.	NE	..	Q R		

Bark SULTANA, D. Mainland, Commander.
London to Port Adelaide.

Tuesday, April 9th.
Noon. Lat. Obs. 49,4 Long. 5.64

Wednesday, April 10th.

Time.	Course.	Wind	
2am.	W	SSW	2 am. Wind increasing with rain. 4. Heavy head sea, ship pitching heavily. Noon. Moderate breeze and fine ; sea going down, Sun obscured. Lat. (48,00) Long. (7,00)
4	WSW	S	
8		SSE	

London and New York Liner SOUTHAMPTON, E. E. Morgan, Commander.
London to New York.

Sunday, April 7th.

Time.	Course.	Wind.	
8am.		WSW	8 am. Saw the Lizard WbyN distant 10 miles ; tacked. Noon. Light winds and pleasant weather.

Monday, April 8th.

Time.	Course.	Wind.	
3am.	WNW	S	Noon. Strong breeze and hazy. Lat. DR. 49,31 Long. 8,20 3 pm. Calm. 4. Breeze springing up from North, weather looking bad and Barometer low. 7 pm. increasing to a gale, during the night strong gales and heavy sea. Ship labouring hard.
7	NWbyW	SSE	
5	WbyS	N	
8pm.		NNW	

Tuesday, April 9th.

Time.	Course.	Wind.	
8am.	S	NW	4 am. Moderating ; made sail. Noon. Lat. Obsd. 48.48 Long. 9,30 Strong breeze from NW. Ship under double-reefed topsails and whole courses. pm. Made all sail.
1PM.	SSW	WNW	
3	NNW	W	
5	NWbyW	SW	

Penin. and Orient. Co. S. S. JUPITER, from Southampton to Gibraltar.
Francis Meehan, Commander.

Monday, April 8th.

Time.	Course.	Wind.	Bar.	Th.	
Noon.			29,07	50	am. Moderate breeze and dull cloudy weather, heavy rain. Noon. Moderate breeze with passing showers. 2.5 pm. Proceeded out of Southampton Dock. 6. Passed the Needles, 8. Increasing breeze and cloudy weather. 10. Portland Lights NbyW½W 10 or 12 miles. Midnight. Strong breeze and cloudy weather. Portland Lights Nby E½E. 12 miles departure taken.
1PM.		SWly			
3		6 SSW			
4		6 SSE	29,05	50	
5		6 South			
8	WbyS	7.4	,00		
9		6 SW			
12		6	29,05		

(Log of the Jupiter continued.)

Time.	Course.	Wind.	Bar.	Th.	
					Tuesday, April 9th.
					am. Strong breeze and clear weather with a heavy
4 AM.	5		29,05		sea. NB. 16 revolutions per minute. 4. Strong
					breeze and cloudy weather. 6. Passed a large ship
					hove to, head to Southward. [on starboard tack
8	4.4	W	29,00		Ed,] 8. Strong gale and high sea, shipping much
Noon.	4.4		.18		water at times. Noon. Strong breeze and high sea
					Lat. by Acct. 49·44 Long by Acct. 3.36 Ushant
1	W½S 5				S 37 W. 95 miles. pm. Strong gale and cloudy
4	5		,20		with high sea, ship pitching heavily. 4. Strong
8	4.4		,20		gale. 6. Do. weather. 8. Strong breeze and dull
Midt.	6		,20	51	gloomy weather. Midnight. Fresh breeze & clear.

Daniel G. Munro, 1st Officer.

R. M. Steamer COURIER, Jersey to Southampton.

Monday, April 8th.

SW Midnight. Strong breezes & rain at intervals ; Started from Southampton.

Tuesday, April 9th.

WSW am. 1,50 Brisk gales and squally. Passed the Needles going at half speed. 4. Strong gales at intervals, and heavy head sea running. 11. Caskets bearing WSW. distant 12 miles. Noon. Strong gales and heavy head sea. 0.20 pm. Caskets bearing ESE, distant 7 miles. Set the fore and main try-
SW sail, went on full speed again. 1.45 Arrived at Guernsey. 4.45 Arrived at Jersey.

The continuation of this Storm will be found in the next Section.

* * *

§ IX.

Storms *A—E.*

Reports from LIGHTHOUSES of ENGLAND and SCOTLAND.

The reader will perceive that each column of the Tables in this Section is numbered, and that in some Tables 4 lines of type are inserted for each day, and in some only 2 lines.

In the former instance, the observations in Columns I. & II. are taken at the hours of 3 am., 9 am., 3 pm., & 9 pm. respectively; in the latter, at 9 am. and 9 pm. only.

Continued at Page xcii.

SCILLY ISLANDS, Lat. 49.53.37 Long. 6.20.39

St. Agnes Lighthouse is erected on high ground, and lying so far to the Westward of the main land—will generally give the real direction of the wind. Possibly with Storms crossing from Ireland to England, the Northerly winds may prevail by blowing down the Irish Channel.

EDDYSTONE ROCK, Lat. 50.10.54 Long. 4.15.53

This Light is 92 feet above the level of the sea, and standing 8 or 10 miles clear of the land, will always have a true wind with storms passing up the Channel; but winds off land, with a rising Barometer, will probably be a few points too much to the Northward.

START POINT, Lat. 50.13.22 Long. 3.37.43

Has its light elevated 204 feet above the level of the sea. At the end of an angle of the land trending out from the Coast of Devonshire, it will have a true wind from NE to SW; when the wind is off the shore it will draw to the West & West of North.

	SCILLY ISLANDS.					EDDYSTONE ROCK.				START POINT.				
	I.	II.	IV.	V.	VI.	I.	IV.	V.	VI.	I.	II.	IV.	V.	VI.
28	29,97	41	SSE	2	BC	30,08	NE	4	B Clear	29,50	—	ENE	2	B ..
March.	30,00	43	SSE	4	B	30,12	E	4	B Clear	,54	39	NNE	2	B
	29,96	48	—	6	BCM	,12	SE	4	BCM	29,55	46	S	2	B
	,93	45	SbyE	6	BCM	,12	—	5	B Clear	,55	—	—	4	B
29	,78	43	SE	7	BCM	,06	—	6	C-i-e	,50	—	SSE	5	B ..
	,76	43	SSE	7	BCM	,01	—	7	BCM	,48	44	—	6	B
	,65	47	—	7	BCM	29,93	—	7	BCM	,50	43	—	6	B
	,56	45	—	8	R	,83	—	8	CM	,32	—	—	7	V
30	,45	47	—	6	R	,70	—	8	CMR	,28	—	SbyE	7	CD ..
	,40	47	—	6	R	,67	—	7	CM	,15	48	SSE	6	C
	,38	50	S	6	R	,60	—	7	CM	,11	50	—	6	C
	,38	48	—	6	C	,56	—	6	OMR	,10	—	SbyW	6	CD
31	,38	46	SW	5	C	,56	—	6	C-i-e	,02	47	WbyS	6	CP ..
	,49	49	—	4	BC	,63	S	5	CM	,08	47	SW	6	CP
	29,54	49	SSW	5	C	,74	—	4	BCM	,10	49	SSW	6	M
	,43	49	—	6	R	29,70	SE	4	CM	29,09	48	SW	6	C
1	,35	49	S	6	R	,57	—	6	CM	,10	48	—	6	CR ..
April.	,20	49	SSE	6	R	,44	—	6	OMR	28,94	48	S	6	C
	28,96	50	—	8	R	,23	—	7	OieRie	,73	50	—	7	CR
	,96	50	S	6	CPR	,14	—	7	OieRie	,73	48	SbyW	7	CR
2	,92	49	SSW	6	R	,14	S	6	BC	,63	48	—	6	CP ..
	,90	49	SW	6	BCPR	,10	SE	6	BCM	.63	48	SSW	7	CP
	,94	50	—	6	R	,16	—	6	BCM	,60	50	SW	7	B
	29,10	50	WSW	6	CRP	,23	SW	5	BC	,22	48	WSW	6	C
3	,26	50	SW	5	CM	,37	—	5	CM	,82	48	SW	5	C ..
	29,16	50	SWbS	6	R	,40	S	6	CM	,90	50	W	7	M
	,03	51	SW	8	R	29,24	—	7	OR	28,50	50	SSW	8	R
	28,98	50	—	8	CPR	,18	SW	8	CM	,65	49	NW	7	R
4	,84	51	—	9	R	,05	—	8	QR	,54	59	SW	7	CR ..
	29,02	51	WSW	8	CPR	,08	—	10	CM	,59	50	WbyS	8	MD
	,37	52	WbyN	7	BCM	,35	.	10	CM	,79	53	W	9	M
	,50	49	SW	8	C	,58	W	7	BC	,99	50	—	6	B
5	,75	48	WNW	2	BCM	,76	—	6	BC	29,20	45	NW	4	B ..
	,88	52	NW	5	BCM	,94	—	7	BCM	,50	51	WbyN	4	B
	29,81	53	WSW	3	BCM	30,01	—	5	BCM	29,53	50	W	5	B
	,76	49	S	5	M	29,98	S	4	BCM	,45	50	WbyN	2	B
6	,60	49	SW	4	C	,81	—	6	OPR	,24	50	W	5	R ..
	,67	48	—	4	C	,79	SW	4	BCM	,28	50	SW	4	C
	29,62	52	—	5	C	29,78	—	5	BCM	29,22	52	WSW	4	M
	,59	51	—	6	C	,79	—	6	OM	,22	49	W	5	D

	GUERNSEY.							St. CATHERINE's PT.					NORTH FORELAND.					
	I.	II.	III.	IV.	V.	Am't Clouds	VI.	I.	II.	IV.	V.	VI.	I.	II.	IV.	V.	VI.	
28								29,67	37	ENE	2	bc	29,75	34	NW	4	bcm	..
March	29,980	43		NE			Hoar	,63	39	NNE	3	bcm	,80	34	NNW	4	bcm	
	30,009	45					Frost.	,67	41	NbyE	3	bc	,84	44	N	2	bcm	
					2	1,5	Gale.	,71	38	ENE	3	bcm	29,92	37	WSW	3	bcv	
29								,80	37	—	4	v	,96	37	SW	2	bv	..
	29,952	42		SE				29,80	49	E	5	cv	,97	40	S	4	bv	
	,830	45					B. gale.	,70	41	ENE	5	c	,97	45	SSE	5	bm	
					8	5		,70	41	E	7	bc	,93	40	—	6	bv	
30								,50	40	SSE	4	cm	,80	39	—	6	bcv	..
	,647	47		SE			G	,42	40	ESE	5	bcm	,77	40	SE	6	bcv	
	,571	52						,37	45	—	5	cm	,70	45	—	6	bcm	
					5	7,5	C B	,37	44	—	5	bcm	,60	40	—	7	bcv	
31								,41	37	EbyS	5	c	,60	40	—	6	bv	..
	,600	51	,027	SW			B C	,45	45	EbyN	3	c	,58	39	S	6	bcv	
	,640	55						,47	49	E	4	c	,60	46	—	5	bcmp	
					3	5,5	P	,50	47	EbyN	4	c	,62	46	—	4	bvp	
1								29,44	40	SSE	3	c	29,55	43	SSE	4	bcm	..
April.	29,415	50	,055	SE			B P	,33	43	SbyE	3	cm	,50	43	SE	5	bcm	
	,213	52						,01	46	SSW	4	r	,30	47	SSE	3	bcm	
					6	10	R. gale.	28,96	44	—	5	mr	,18	46	SE	6	bcm	
2								29,05	46	—	5	c	,10	47	—	6	or	..
	,119	50	,277	SE			P	,00	47	WSW	4	c	,09	50	S	5	om	
	,094	54					Fresh	,05	49	W	4	c	,08	54	SSW	2	bcv	
					3	4,5	breeze.	29,00	47	SWbS	3	c	,13	52	S	6	om	
3								28,83	45	WSW	4	c	,10	48	—	5	bcv	..
	,392	51	,083	SW			B P	,78	47	WbyS	4	c	29,20	53	WSW	6	bcv	
	29,308	51						,78	47	W	4	cp	,23	55	—	7	bcm	
					4	9	Gale.	,98	46	WbyS	5	cp	,14	49	—	6	bcru	
4								,96	47	—	6	c	,02	50	SSW	6	orp	..
	,120	52	,666	SW			Stormy	,93	47	WSW	7	c	28,94	51	—	7	org	
	,373	53						,95	48	WbyS	7	c	,92	54	SW	7	ocu	
					9	6,6	B. gale	,99	47	—	7	c	29,12	50	—	7	oq	
5								29,33	44	WbyN	5	m	,25	50	W	7	bcm	..
	,814	54	,027	W			B	,44	46	WNW	6	cm	,35	51	WNW	7	bcv	
	,904	53					Strong	,57	51	WbyN	6	cm	,55	56	—	6	bcv	
					7	0	breeze.	,57	47	WNW	6	cm	,63	48	NW	5	bv	
6								29,48	46	WbyS	4	cm	29,67	43	SW	3	bv	..
	29,708	49	,111	SW			G P	,47	46	WbyN	6	c	,50	45	—	5	f	
	,704	54						,50	51	W	6	c	,53	54	—	6	bcm	
					2	6,6	B	,50	47	WbyN	6	c	,60	49	—	5	ogr	
7																		
	29,694	51		SW			B											
	,624	54																
					1	5	B											
8																		
	,348	53		SE			O											
	,284	53																
					1	5	B											
9																		
	,368	49	,083	SW			G P											
	,430	52																
					6	8	B											

Thus by carrying the eye from left to right the reader will have all the observations taken at the Stations at the heads of the respective tables at 3 am. of March 28th, or at any other time, or day, according to the particular line he may select for consideration.

Column I. represents the Barometer.

——— II. ——— the Thermometer, outside the lantern.

Those Stations at which 4 observations are made daily are English, and their Tables were communicated by the CORPORATION of the TRINITY HOUSE. Those at which they are made only twice a day, viz. 9 am. & 9 pm. are Scotch, and were communicated by the BOARD of NORTHERN LIGHTS. I have to make my most grateful acknowledgements for the very courteous and ready manner in which my applications for these details were responded to.

Column III. represents the depth of rain in inches for the preceding 24 hours, observed at 9 am.

Columns IV. V. VI. of the *English Lighthouses,* represent the direction and force of the wind, and the weather, (according to the Admiralty Table of Abbreviations which will be found at Page vi. of this Appendix,) at the times indicated by each line of type.

——————— of the *Scotch* Lighthouses,* represent the same for the preceding 24 hours up to 9 pm.

* N.B. It is evident that this system of Notation is much inferior to the preceding, and attended with much uncertainty for purposes of comparison or inference.

GUERNSEY, Lat. 49.33. Long. 2.40.

Standing clear of the French Coast, to the Northward and Westward of the mainland, will be exposed to draughts whenever the wind comes from Eastward to Southward, and South of West, that is with storms passing over France; but as the generality of storms coming from the Westward travel to the Northward of the Channel Islands, I should imagine the prevailing winds at Guernsey to be true winds from South-west to North-west The observations from Guernsey are communicated by Dr. Hoskins. The height of the Barometer above mean sea level is 123 feet. Neutral point ditto, 29,822. Height of Rain Guage Receiver above ground, 47 feet. In estimating the force of wind, a calm is represented as 0, a gale as [6. To facilitate comparison with the other Light-house reports I have doubled this,] 12. In estimating the portion of sky occupied by clouds, a blue sky is represented by 0, a sky perfectly overcast by 10.

ST. CATHERINE'S PT. Lat. 50.35.34 Long. 1.18.6

St. Catherine's Lighthouse is at an elevation of 178 feet above the level of high water, and stands open seaward in all directions, and will have a true wind on every side, except a point or two West and East of North.

NORTH FORELAND, Lat. 51.22.29 Long. 1.26.47 E.

This Light being 184 feet above the sea, on bold commanding ground, at the NE angle of the Coast of Kent, will have a true wind from North and East, and be very correct for all storms lying over the German Ocean, whether their central line be from France and the Southward, or from Ireland and the Westward.

Light-houses present these two advantages as Stations for Meteorological Observations in distinction to all others on shore.

Firstly,—From the peculiar nature of the duties of the Light-keepers, the Observations are made *during the night* as well as the day, so that the fluctuations of the Barometer are noted much more frequently, and the precise period at which it began to fall or rise is not left to be guessed at so entirely as when the observations are limited to the day-time.

Secondly,—From their locality, being either in the sea, as the Eddystone and Bell Rock; or on Islands, as St. Agnes, in Scilly; or on high commanding situations, as St. Catherine's, in the Isle of Wight; or on projecting promontories, as the Start, they are less exposed to artificial currents and eddies of the wind than

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CALF OF MAN, Lat. 54.3. Long. 4.50.

At the SW extremity of the Isle of Man, is in the pathway of all storms, crossing Ireland, and its Barometrical observations would be more valuable than most other stations in these dominions, and being 300 feet above the sea, and exposed to the wind on almost every side except the North and East, the veerings of the wind might be very accurately noticed.

MULL OF GALLOWAY, Lat. 54.38.9 Long. 4.51.20

At an elevation of 325 feet above the medium level of the sea, and open on all sides except from NNE to NW, on a promontory extending into the Irish Sea from the South-western extremity of Scotland, this Light-house is admirably situated for observing all storms, until they have passed over Scotland; for if it be in their left hand semicircle as they pass over England, the wind will veer from S to SE, and Eastward; or if in the right-hand, as they pass over Ireland and Scotland, the wind will veer from S to SW, and NW.

FLAMBOROUGH HEAD, Lat. 54.7. Long. 0.5.

Off the Coast of Yorkshire is well situated for all storms lying over the German Ocean, and the observations, taken here by the very intelligent and zealous Light-keeper Mr. Henry Knott during the past winter, have furnished me with some exact and very important statistics relative to the fluctuations of the Barometer. This Light is 214 feet above the sea.

	CALF OF MAN.						MULL OF GALLOWAY.						FLAMBOROUGH Hd.				
	I.	II.	III.	IV.	V.	VI.	I.	II.	III.	IV.	V.	VI.	I.	II.	IV.	V.	VI.
28													29,77	30	NNW	5	BC
March.	29,70	37					29,70	40					,81	38	—	5	BCM
													,88	40	NE	2	BM
	29,72	40		SE	Vble.	Clear.	29,67	39		Var.	Br.	Clear.	29,92	36	SSW	3	B
29.													,92	33	SW	4	B
	,60	42					,60	40					,96	38	—	2	BM
													,94	43	SSE	5	BM
	,42	42		SE	Fresh	Do.	,40	41		S	Gale.	Haze	,92	39	—	6	B
30.													,89	38	—	6	QC
	,16	38	,04				,15	37	,09				,86	41	SE	6	U
													,77	42	—	8	OM
	,10	42		E	Gale	Rain.	,04	40		SE	Hur.	Rain.	,72	39	SSE	8	QO
31.													,56	39	—	9	O
	,08	43	,30				,00	41	,11				,68	41	—	9	CM
													,58	42	—	8	QCM
	,22	46		SE	Str. Brez.	Do.	,19	41		S	Gale	Do.	,57	41	SSW	6	O
1.													29,52	41	SSW	5	CM
April.	29,04	45	,11				29,04	45	,12				,40	47	—	3	F
													,38	46	SSE	5	OM
	28,77	47		SE	Gale	Do.	28,74	48		S	Gale	Rain Fog.	,26	42	SE	6	OM
2.													,10	42	—	6	O
	,66	48	,19				,66	46	,30				,04	44	SSE	6	FR
													,03	49	—	5	CM
	,62	48		SSE	Str. Brez.	Do.	,60	45		S	Gale	Rain.	,01	45	S	5	M
3.													,01	43	SSW	5	P
	,78	46	,09				,73	46	,15				,09	51	SW	5	BCM
													,10	54	SSW	5	OM
	28,50	46		S	Fresh Do.	Fog Rain.	28,42	45		S	Gale	Rain Fog.	28,89	45	S	8	R
4.													,83	45	WSW	6	BC
	,36	47	,22				,38	46	,19				,72	45	S	6	FR
													,65	51	SW	6	PD
	,70	46		SEto NW	Do.	Do. Do.	,74	46		SW	Gale	Do. Do.	,79	49	W	6	R
5.													,99	47	WNW	6	BC
	29,22	45	,36				29,16	48	,20				29,12	52	—	6	BC
													,41	54	W	7	BC
	,48	47		W	Do.	Hazy Rain.	,44	44		NW	Br.	Rain.	,55	46	WNW	5	BC
6.													29,54	40	WSW	5	B
	29,14	44	,10				29,14	41	,10				,46	46	SW	3	F
													,41	52	—	3	P
	,20	43		S	Do.	Do. Do.	,10	43		Var.	Br.	Fog.	,45	45	W	4	O
7.																	
	29,14	48	,07				29,10	45	,07								
	,18	46		SSW	Do.	Rain Fog.	,09	45		SW	Br.	Do. Do.					
8.																	
	,03	44	,08				,00	44	,12								
	28,90	50		ESE	Str. Do.	Rain Hazy	28,88	50		S	Br.	De. Do.					
9.																	
	,52	46	,05				,70	45	,12								
	,83	44		SE	Do.	Rain Fog.	,70	45		Var.	Br.	Do. Do.					

	LONGSTONE.					RHINS OF ILAY.						APPLEGARTH MANSE.				
	I.	II.	IV.	V.	VI.	I.	II.	III.	IV.	V.	VI.	I.	II.	IV.	VI.	
8	29,90	34	NW	7	BC											..
	,96	36	—	5	BC	29,83	41					29,92	43	Mod.	Frost.	
	,98	40	NNE	2	BC											
	30,00	39	S	2	B	,80	40		SE	Br.	Haze.	29,95	20	SE	Frost.	
9	,03	38	SSW	2	BM											..
	,03	41	S	5	BM	,70	44					,92	48			
	30,00	43	SbyE	7	M											
	29,97	40	—	9	B	,60	44		SE	Gale.	Haze.	,85	26	SE	Do.	
0	,93	39	—	10	OM											..
	,92	40	—	11	OCM	,38	38					,73	42		Frost.	
	,80	40	—	11	OCM											
	,70	39	—	11	OCM	,20	44		SE	Gale.	Rain.	,56	35	E	H R	
1	,65	40	—	11	OCM											..
	,60	40	—	11	OP	,15	45	,12				,43	50		R	
	,60	41	—	9	OC											
	,60	41	—	8	OM	,30	46		SE	Gale.	Rain.	,50	35	Mod.	C F	
April 1	,59	42	—	8	OCM											..
	,53	43	—	7	OMD	29,18	47	,04				29,38	53			
	,48	44	—	7	OM											
	29,38	42	SSE	6	OM	,04	50		SE	Br.	Rain.	,20	43	ESE	R	
2	,22	42	—	8	OR											..
	,13	41	—	8	OCP	28,90	45	,22				,00	57	S		
	,12	43	—	7	OM											
	,09	43	—	6	OMG	,72	50		SE	Gale.	Rain.	28,97	43	SE	R	
3	,06	43	SbyE	6	CM											..
	,12	47	—	3	BCM	,85	48	,02				29,05	54	S		
	29,12	49	SW	4	BC				SE	Gale.	Rain.					
	28,90	45	SSE	9	OG	28,56	47					28,80	44	S	R	
4	,84	45	SbyE	7	BCM											..
	,78	47	—	6	OM	,56	47	,28				,71	56		D	
	,76	47	SSE	2	OM											
	,85	47	NW	4	CM	,84	49		Var.	Br.	Rain.	,86	46	SE	R	
5	29,01	47	WNW	7	BC											..
	,23	50	—	8	BC	29,28	47	,04				29,28	54			
	,41	51	NW	8	C											
	,56	46	WNW	7	BC	,66	47		Var.	Br.	Haze	,60	46	W	R	
6	,58	44	W	5	BC											..
	29,54	47	S	2	OG	29,36	47					29,48	50	SE		
	,48	47	SbyE	4	OMD											
	,47	46	W	1	BC	,30	47		Var.	Br.	Haze	,40	34	SW	P	
7																..
						,07	51					,30	54	S	R	
						,30	50		Var.	Br.	Haze	,40	40	SSW	Clear.	
8																..
						29,20	46					29,32	58			
						,10	47		Var.	Br.	Rain.	,16	41	SE	R	
9																..
						28,95	50	,73				,06	53		Fine.	
						,99	49		Var.	Br.	Rain	,02	46	ESE	P	

stations inland: any person who may have gone down the Thames from Vauxhall Bridge to Woolwich, on a fine evening with a moderate breeze, will have observed in how many different directions the smoke from the different factories is wafted according to the bend of the river at which the chimney stands, and yet one can hardly conceive a more true indication of the direction and force of the wind than the smoke issuing from a straight and tall chimney. Nevertheless if all the Engineers in Southwark were asked to record the direction of the wind as indicated and observed at his own chimney, whoever should undertake to compare and arrange their statements, would give up in despair the attempt to ascertain the real direction of the wind at London. With how little certainty then can any one pretend by means of a vane, the most usual description of Anemometer, to decide inland, amidst high ranges of hills, or in the bosoms of deep valleys what is the true wind; and therefore in such observations there must always be a very considerable allowance for variation: In the case of Light-houses on the other hand, which generally are in positions most elevated and exposed, the wind blows in

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LONGSTONE ROCK, Lat. 55.39. Long. 1.37.1

On the Eastern Coast of Northumberland and at the level of the sea, the Light being 75 feet above highwater.

RHINS OF ILAY, Lat. 55.41. Long. 5.29.

On the Island of Oversa at the SW extremity of Islay, (or Ilay) about 150 feet above the sea. This Lighthouse and the Glass Island are well situated for observing Storms that come round the North end of Ireland.

APPLEGARTH MANSE, Lat. 55.10. Long. 3.20.

In Dumfrieshire, communicated by the Rev. Wm. Dunbar to the Editors of the London Philosophical Magazine; I have inserted this for the information of those who may wish to compare the effects of an inland position on the currents coming from the sea.

all its force, unchecked by any intervening obstacle. I have endeavoured to point out any particular causes which may nevertheless affect unduly the exactness of the observations. These Notes will be found at the intervening pages of this Section, and I believe may be relied upon being extracted from a Semi-official work of high authority on these subjects.

The continuation of such of the Tables for Storms F—K as I have received will be found at the conclusion of Storm K.

Continued at Page c.

INCHKEITH, Lat. 56.2. Long. 3.8.

Is a small island situated nearly in the middle of the Frith of Forth, ¾ of a mile long, and narrow, lying nearly North and South; near the middle of it is a Light-house at an elevation of 220 feet above the level of the sea, which may be seen from all points of the compass. I conclude that a westerly current of wind down the valley of the Forth will generally prevail here.

BELL ROCK, Lat. 56.26.3 Long. 2.23.6

This Light-house is 110 feet above the level of the sea, the rock being covered over at high-water, and lying 10 miles from the Coast of Fife is well exposed for all Storms that have passed over Scotland to the Eastward.

	INCHKEITH.						BELL ROCK.				
	I.	II.	III.	IV.	V.	VI.	I.	II.	IV.	V.	VI.
28 March.	29,82	34					30,00	36			
	,84	36		Var.	Light Br.	Clear	,04	38	Var.	Light Br.	Clear.
29	29,86	39					30,08	41			
	,85	40		SE	Light Br.	Haze	29,30!	41	S	Strong Br.	Hazy.
30	,73	38					,90	41			
	,54	38		SSE	Gale.	Haze	,63	39	S	Heavy Gale.	Hazy.
31	,37	38	,06				,52	38			
	,40	43		SSE	Strong Br.	Rain Haze	,60	41	S	Heavy Gale.	Hazy Sleet.
1 April.	29,33	46					29,52	43			
	,22	44		SE	Light Br.	Haze	,40	42	S	Strong Br.	Hazy Rain.
2	,00	41	,02				,14	41			
	28,90	45		E	Mod. Br.	Fog	,07	42	SE	Strong Br.	Hazy Rain Fog.
3	,92	50	,10				,05	42			
	28,75	47		S	Light Br.	Rain	28,91	45	S	Strong Br.	Hazy Rain.
4	,56	53	,07				,74	56			
	,68	48		Var.	Light Br.	Rain	,84	54	S	Light Br.	Hazy Fog.
5	29,08	48	,20				29,20	44			
	,40	45		WNW	Strong Br.	Clear	,64	48	W	Fresh Br.	Clear.
6	29,37	43					29,52	46			
	,33	43		Var.	Light Airs.	Rain	,47	43	Vble.	Light Br.	Hazy.
7	,24	47	,25				,36	43			
	,26	47		Var.	Var.	Rain	,43	47	Vble.	Fresh Br.	Hazy Rain.
8	29,22	50					29,44	50			
	,15	41		Var.	Light Br.	Fog.	,27	45	S	Light Br.	Hazy Rain.
9	,02	45	,25				,16	45			
	,00	46		S	Light Br.	Fog. Rain	,16	44	S	Fresh Br.	Fog Hazy Rain.

	ISLAND GLASS.						BOURTIE MANSE.					
	I.	II.	III.	IV.	V.	VI.	I.	II.	IV.	V.	VI.	
28										Clear.	Frosty	. .
March,	29,85	44			Light		29,625	31		Calm.	Clear.	
	,85	40		Var.	Airs.	Clear					Clear.	
29												. .
	29,75	44					29,7	37	SW	Brisk.	0	
	,64	45		SSE	Gale.	Clear			S	Very	cold.	
30											Frost	. .
	,34	40					,575	56	S	Violent,	0	
										and very	cold.	
	,28	42		SSE	Gale.	Haze					P	
31										Very		. .
	,23	48	,05				,275	34	S	Strong.	Sleet.	
					Strong					Very		
	,28	48		S	Br.	Cloudy				Violent,	Rain,	
1												. .
April,	29,28	48					,25	39	SE	Very	thick fog	
										G.	D.	
	,10	45		SE	Var.Cloudy							
2											Dry	. .
	28,96	45	,05				28,925	37	SbyE	Strong.	RAINY	
	,88	45		SE	Var.	Show.				Foul.	Rainy.	
3												. .
	,80	48					,8	42	S		D	
									SbyW			
	28,58	46		SSE	Gale.	Show			E		Fine.	
4										Rain.	Sleet,	. .
	,54	47	,04				,525	47	SbyW		Fine C	
									E	Thick	Sea-fog.	
	,58	46		Var.	Squally	Fog						
5											Rain.	. .
	29,12	48	,32				,875	49	NW	Brisk.	Fair.	
	,50	45		NW	Do.Showery		29,24		NW			
6												. .
	29,38	48					29,2	47	SW	Light		
					Light							
	,30	44		Var.	Br.	Clear.			E		P.	
7											Snow	. .
	28,94	48					,05	42	SbyE	Cold.	Showers.	
					Heavy				S&SW		Very fine	
	29,15	46		SW	Gale.	Haze.					Do.	
8												. .
	29,10	46	,15		Squally		,15	51			Cloudy.	
	,18	45		Var	Haze	Rain					Rainy.	. .
9											Do.	
	29,00	46	,30		Br.		28,90	42			Rainy.	
											Dry.	
	,08	45		NE	Haze.	Rain						

One of the best established results of Rotatory Storms is the effect produced by them on the currents of the sea, although little regard is paid to it, unless some great catastrophe shall have rendered it necessary in the case of some luckless Commander who has run his ship ashore, for the vindication of whose character recourse is had to the solution "of the wind having caused an unusual current of the sea to set his ship out of her reckoning."

Of this displacement of the water the only measure in the open sea is the difference between the position of a ship as estimated by her Dead Reckoning, and as ascertained by Observation, and in the many Logs of Merchant Sailing Vessels which I have examined, I have rarely found this difference stated. From the Logs of the Mail Steam Ships I have derived much information on this subject, to which I propose to advert elsewhere; but in this place I would draw attention to two very interesting papers, which though inserted for convenience in the Appendix Part II. are more particularly connected with the Light-house Reports of FLAMBOROUGH HEAD and HELIGOLAND, of which respectively they may be deemed the complement, I mean the Tidal

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GLASS ISLAND, Lat. 57.52. Long. 6.33.

In the Channel between the Hebrides and the Western Coast of Scotland, seems well placed for observing the veering of the wind in Storms passing over the NW extremity of these Islands.

BOURTIE MANSE, Lat. 57.20. Long. 2.20.

Near Meldrum in Aberdeenshire, and from 20 to 30 miles SW of Kinnaird Head. The observations were communicated by the Rev. Dr. Thomas Bissett.

Reports from Scarborough Harbour and Harburg in the Elbe, which, facing each other on opposite sides of the German Ocean, represent well the effects of a Storm passing over it.

I should add that my original design having been to trace the great Storm in which the Royal Adelaide was lost, I limited my applications for information to the weather of the period concluding with the 6th April. And as the space from the 28th of March to that day included two Storms *A* and *C* of very unusual violence, I conceived that I had sufficiently gratified mere curiosity in tracing them to their conclusion, and also that a second request might be deemed obtrusive, until I had shown some results of the former one. My object in extending my inquiries to a later date having been to ascertain how far the Rotatory Theory was susceptible of universal application, I have only added such details relative to the passage of Storms *D*—*K* over the Continent as I had received in reply to my previous Circular.

KINNAIRD HEAD, Lat. 57.42. Long. 2.0.

This Light-house is 120 feet above high-water, and is open from all points between WNW seaward, and SE, standing at an angle of the North-Eastern coast of Aberdeenshire, extending into the North sea.

SANDWICK MANSE, Lat. 59. Long. 3.20.

About 1½ miles from the West coast of the mainland of the Orkneys; 100 feet above the level of the sea. Communicated by the Rev. C. Clouston.

	KINNAIRD HEAD.						SANDWICK MANSE.						
	I.	II.	III.	IV.	V.	VI.	I.	II.	III.	IV.	V.	VI.	
28 March.	29,98	36					30,00	37	,12	N	Calm:	Bright	••
	30,05	36		NW	Br.	Snow	,03	31		E	Bright.	Cloudy	
29	,05	37					30,01	38	,02	SSE	Mod. Br.	Bright.	••
	30,04	37		S	Br.	Cloudy	29,99	39		SE	Do.	Clear.	
30	29,88	37					,86	41		SE	Gale.	Cloudy	••
	,68	37		S	Gale.	Haze	,68	39		SE	Gale.	Cloudy	
31	,55	30	,03				,54	40		SE	Gale.	Drops,	••
	,57	39		SSE	Gale.	Rain	,58	41		SE	Gale.	Cloudy	
1 April.	29,53	41	,20				29,52	43	,16	SE	Strong Br.	Fog.	••
	,45	41		SE	Strong Br.	Fog Rain	,45	42		SE	Do.	Damp	
2	,21	40	,10				,32	42		ESE	Do.	Cloudy	••
	,16	40		SE	Gale.	Fog Rain.	,23	40		ESE	Do.	Rain.	
3	,07	41	,18				,15	41	,50	SE	Do.	Damp.	••
	29,04	43		SE	Gale.	Fog Rain.	,13	43		SE	Do.	Damp.	
4	28,76	47	,11				28,75	47	,19	SE	Do.	R.	••
	,84	45		SE	Br.	Fog Rain,	,84	44		SE	Mod.	R.	
5	29,12	45	,07				29,06	47	,23	W	Mod.	D.	••
	,46	43		NW	Strong Br.	Rain.	,47	44		WNW	Mod.	D.	
6	,53	45		NE			,47	45	,50	NW	Calm.	Cloudy	••
	29,50	45		S	Light Airs.	Haze	29,46	42		SE	Calm.	Hasy.	
7	,30	45					,29	46					••
	,33	51		S	Br.	Rain.	,30	47		S	Cloudy	R.	
8	,40	51					,34	48	,13				••
	29,33	43		S	Br.	Haze Rain.	29,35	45		SE		R.	
9	,18	44	,20				,22	45	,14				••
	,18	43		S	Br.	Fog Rain.	,23	45		SE		D.	

	PENTLAND SKERRIES.						SUMBURGH HEAD.						HELIGOLAND.				
	I.	II.	III.	IV.	V.	VI.	I.	II.	III.	IV.	V.	VI.	I.	II.	IV.	V.	VI.
28													29,64	30	NW	2	GS
March	29,82	34					29,65	38					,69	32	NNE	2	BC
					Light						Mod.		,78	32	NNW	4	GS
	,84	34		N	Br.	Snow	,80	33		N	Br.	Snow	,82	31	NW	5	BC
29													,88	29		0	S ..
	,90	39					,80	40					,95	34		0	S
											Mod.		30,03	33	NNW	2	BC
	29,92	41		S	Br.	Haze	29,83	40		S	Br.	Clear.	,07	31	ENE	3	BCV
30													,11	27	SE	3	BC
	,83	40					29,80	40					,11	31	—	4	BCV
											Strong		,14	32	ESE	6	BC
	,80	40		S	Gale.	Haze	,56	40		S	Gale.	Haze	30,08	28	SEbS	7	B
31													,05	27	SSE	7	C ..
	,80	41					,47	40	,08				,05	28	SEbS	7	BC
											Strong		29,99	32	—	7	BC
	,76	42		S	Gale.	Haze	,40	40		S	Gale.	Haze	,95	31	—	7	BC
1													,82	30	SbE	7	BC
April	,58	42					29,40						,80	34	—	6	BC
											Strong		,72	38	—	6	BC
	,36	42		S	Gale.	Haze	,28			S	Gale.	Rain	,62	35	SSE	7	BC
2													,50	32	—	8	CM
	,27	42					,14						,43	35	—	8	BC
											Strong		,35	38	—	8	BC
	,07	40		SE	Gale.	Haze	,00			S	Gale.	Haze	,27	37	—	8	R
3													,20	38	SSW	7	R ..
	28,98	42					,00						,21	40	WbS	2	F
											Strong		,28	44	W	5	F
	28,90	42		SE	Gale.	Haze	28,85	38		SE	Gale.	Sleet	,32	41	—	3	C
4													29,23	41	S	5	R ..
	,70	43	,30				,60	37	,10				,17	43	—	4	F
											Strong	Fog	,09	47	SSW	5	P
	,68	44		SE	Gale.	Rain	,62	38		SE	Gale.	Rain	,04	44	SW	5	M
5													,03	41	WSW	5	F ..
	,90	45	,72				,92	46	,24				,07	41	W	7	R
											Mod.		,27	42	WbN	7	BCM
	29,36	43		Var.	Br.	Haze	,23	43		NW	Br.	Fog	,40	41	WNW	7	C
6													,50	40	WbN	6	F ..
	,43	42					29,20	45	,5				,53	39	W	5	CM
					Light						Light		,58	43	—	5	CM
	29,38	42		Var.	Airs.	Clear	,24	44		NE	Airs.	Haze	29,58	42	WSW	2	D
7													,52	41	—	4	O ..
	,32	41					29,14	43	,8				,54	41	—	3	F
											Strong		,56	44	—	3	F
	,20	47		SW	Br.	Haze	,14	45		SW	Br.	Fog	,58	43	W	1	C
8													92,60	41	SE	2	F ..
	,27	46					,14	44	,5				,60	43	—	3	F
											Strong		,57	47	—	4	BC
	29,27	44		S	Br.	Rain	,16	42		S	Br.	Haze	,50	44	SFbE	6	BCM
9													,41	43	SE	7	C ..
	,14	43					,16	41	,10				,41	42	—	7	R
												Fog	,40	44	SSE	6	R
	,13	44		SE	Br.	Fog.	,15	42		S	Gale.	Rain	,45	43	NW	2	B

PENTLAND SKERRIES, Lat. 58.41.10 Long. 2.55.3

These Light-houses are about 100 feet above the sea on some rocky islands, 3 miles East by North from Duncansby Head, the North-Easternmost point of Scotland, better known as *John O'Groat's House*.

SUMBURGH HEAD, Lat. 59.51. Long. 1.16.

The SE extremity of the Shetland Isles, about 30 miles distant from the preceding.

HELIGOLAND. Lat. 50.11.20. Long. 7.53.13 E.

About 92 leagues ESE from Flamborough Head (See Page xciii—xciv) a small island, flat but elevated, lying directly in front of the rivers Jahde, Weser & Elbe. The Light-house is 250 feet above the level of the sea.

This Station is so far to the Eastward of the others that are included in this Section, that its proper place might be thought to be in Part II. of the Appendix along with the other Continental Reports. I have nevertheless arranged it where it now stands, that it might be contrasted with those lying to the extreme West of these Islands.

This Report may be compared with the Observations taken at Nyholm, (Copenhagen)

The continuation of Storms A—E will be found in
The Appendix Part II.
And also certain Tables which could not be arranged conveniently in this Section.

§ X.

Storm *F*.

W. I. R M. St. Packet Company's Ship MEDWAY.
In Mobile Bay, (Lat. 30.50 Long. 88,30 W.)

Time.	Wind.	Bar.	
			Monday, April 1st.
6 pm.	E	29,94	Strong gale (with heavy sea) but moderating.
Midnt.		,90	Strong breeze.
			Tuesday, April 2nd.
6 am.	ESE	,85	Fresh breeze, but too much sea to cross the bar.
Noon.	SE	,71	Strong breeze and heavy squalls, with rain.
6 pm.	Vble.	,56	Very heavy on the bar. and Barometer falling, did not consider prudent to cross the bar.
9 pm.	S		Squally appearance to Westward. 11 30 Heavy squall from
Midnt.	S&SW	,50	SW.
			Wednesday, April 3rd.
6 am.	WSW	,53	2 am, Barometer rising. 6.45 Weighed and set on ; Mod. and fine.
Noon.	SW	,66	Moderate and fine. Lat. Acct. 29.40 Obsd. 29.41 Long. Acct. 88.17 Chr. 88.19
6 pm.	Vble	,70	Light breeze and hazy.
Midnt.		,73	Light breeze and hazy.

Abstract from Log of Brig VELOCITY, Capt. Holmes.
From Oporto to Philadelphia.
(Communicated by Messrs. Newman and Hunt.)

Date	AM.	PM.		Lat.	Long.	Remarks.
Apr. 5th,	SW	S		35,27	71,34	Strong wind and squally.
Sat. 6th,	SW	N	Strng.wd	35,55	73,11	Fore-top staysail burst.
Sun. 7th,	N	N	Fresh	36,12	74,41	Fresh wind and clear.
Mon. 8th,	WNW	SW	Moderate	37,20	74,53	Sounded 25 fathoms.

R. M. W. I. St. Packet Co.'s S. CLYDE.
St. Thomas' to Bermuda.

April 1st Noon. Lat. 21.31 Long. 65,07 Light E and ENEly breezes. Bar. 30,—30,05 4 pm. Calm. 10 pm. Increasing winds NE and cloudy.

2nd 2 am. Steady breezes NNE. 5 am. NE. 9 am. NEbyE. Noon. Lat. 24,23 Long. 65,3 Strong winds and cloudy, Bar. 30,11 7 pm. ENE Strong winds with passing squalls, Bar. 30,02

(Log of Clyde continued.)

3rd am. Moderate winds ENE and cloudy. 2 am. EbyN, moderate and fine. Noon. Lat. 27,22 Long. 65,3 1 pm. E. 3 pm. EbyS, strong winds & cloudy 8 pm. ESE. 10 pm. SE.

4th. 1 am. SSE, strong breeze & cloudy. 4 am. SbyW. Bar. 29,90 10 am. SSW. Bar. 29,87 Moderate breezes. Noon. Lat. 30,33 Long, 64,36 Bar. 29,87 pm. SW, Strong breeze, sudden shift of wind to NW ; heavy rain. Bar. 29,85.

5th pm. Light breezes SW and fine. Bar. 29,86. 9 pm. Strong winds SbW and heavy rains. Midnight. Do. winds and passing squalls. Bar. 29,78

6th am. Passing showers and heavy rain at times. 8 am. Bar. 29,67. the

7th Bar. continued about 29,67 to 29,75 till Noon of the 7th when the wind veered to WbyS, and NW, and in the evening the Bar. rose. This storm was lightly felt at Bermuda.

R. M. W. I. St. P. Co. St. Ship AVON.

Bermuda to Southampton.

Time.	Course.	Wind.	Bar.
8 am.		SW	29,80
10		Vble.	,78
4 pm.		SSW	,76
6			,74
1 am.		WSW	,70
4		Vble.	,66
6			,64
8		S	,64
11		SSE	
2 pm.			,66
4		Vble.	,66
6		SW	,68
10			,70
2 am.		WSW	,72
10		NWly	,78
4 pm.		NNW	,84
Midnt.	NEby E½E		,90
8am.		Nly	30,02
Noon.		Vble.	Steady
pm.	NEbyE		Steady

Friday, April 5th.

At Bermuda. Noon. Fresh breezes and passing clouds. pm. Increasing breezes, with heavy rains. 8 pm to Midnight. Squally. The Barometer falling steadily, with rain at times.

Saturday, April 6th.

At 3,30 am. Heavy squalls with rain, moderating towards 5 o'clock, with very heavy rain till 11, when it cleared up a little. In the afternoon the Barometer rising slowly and steadily. Occasional showers, with heavy rain at 8 pm. Towards Midnight clearing up.

Sunday, April 7th.

am. Moderate breeze & cloudy. Barometer rising slowly. 8 am. Light breezes. At 11,30 Squally with heavy showers. Noon. Fresh breeze and cloudy. 4,30 PROCEEDED. Moderate breeze and fine.

Monday, April 8th.

7 am. Squally, with heavy rain, wind hauling to Northward and Eastward. 8. Decreasing breezes Noon. Light breeze and fine, Lat, by Obs. 33.21 Long. by Chron. 62,11. pm. Light variable air, and fine, inclining to E at 6 pm. & at 8 pm to S. Towards Midnight, Light rain.

Charles Gordon, Chief Officer.

London & New York Liner PRINCE ALBERT, F. R. Meyer, Commander.

London to New York.

Friday, April 5th.

Noon. Lat. 41,45 Long, 66,25 Light breezes from NE, & fine weather. Course, WSW. 6 pm. Wind E. Course, SWbyW. 9 pm. Commenced to storm from NE. Midnight. Double-reefed topsails, furled mizen sail and jib ; heavy snow squalls.

Saturday, April 6th.

Towards Noon, fresh gale from NE, and a long sea setting to SW. Course WSW Noon. Lat. 40,15 Long. 69,30 pm. Fresh gale from NE, hauling to N, with long sea setting to SW. Midnight. Set main-sail and jib. Course WNW.

Sunday, April 7th.

3 am. Set single-reefed topsails and top-gallant sails. Towards Noon, fine clear weather. Lat. 39,20 Long. 72,30 pm. Light winds from NW, and variable weather. 5 pm. Wind WSW. Course NW. 8 pm. Wind SW.

Monday, April 8th.

1 am. Wind hauled to S. 9 am. Came to anchor at New York.

HERMANN, Steam ship. Bremen to New York.

		Lat	Long.	Bar. Noon.	Midnt.	
Fri.	5th,	42,03	65,13	29,70	29,83	Fine and
Sat.	6th,	40,15	69,31	29,70		pleasant
Sun.	7th,	40,42	74,70			weather.

London and New York Liner NORTHUMBERLAND, J. M. Lord, Commander.
London to New York.

	Course.	Wind.	Bar.	Th.	
					Friday, April 5th. Lat, 41,52 Long. 54,37
					Saturday, April 6th.
4 am.	NWbyW ¾W	E	29,8		4 am. Barometer on the stand at 29,80 Fine breeze and cloudy weather; set all starboard studding sails. 8 am. Do. do. 10 am. Barometer falling took in all light sails, breeze fresh. Noon Lat. 42,19 Dr. Long. 58,10 Dr. Barometer falling. Strong wind and hard rain. pm. A strong gale and rainy weather. 1 pm. Furled top-gallant sails and mainsail, double reefed the topsails. 4 pm. Fine and clear weather. 8 pm. Do. Breeze more moderate. Midnight. Lat. by the Pole Star 41,55 N. Breeze light, fine and clear, Barometer falling.
Noon.			29,5		
pm.	WNW	ESE			
		SSW			
					Sunday, April 7th.
5 am.	NW	WSW			4 am. Fresh breeze and thick weather, set single reefed topsails whole courses. Noon. Strong wind and heavy sea. Lat. 42.11 Obsd. Long, 60,15 Chr. Barometer falling. pm. A strong breeze and squally weather, ship under single reefed topsails whole courses. 3 pm. Wore ship, double reefed the topsails, reefed mainsail and furled jib, past a ship standing to the Northward. 4 pm. Blows hard in squalls, snows fast. 8 pm. Do. do. Midt. More moderate, Barometer is rising.
Noon.			29,1	48	
pm.	N	WNW			
4	WbyS	NNW			
					Monday, April 8th.
4 am.	WSW	NW			4 am. Made sail to the breeze. 8. All possible sail set. 11. Breeze freshens, took in top-gallant sails. Noon. Fine and clear, with a fresh breeze. Lat. 41,29 Obsd. Long. 61,14 Chro. Barometer on the stand. S. L. Spencer.
9	SW	WNW			
Noon.			30,	37	

Abstract from the Log of the CHANTICLEER, from Bahia to London.

(Communicated by Messrs. Newman and Hunt.)

Date.		Wind.		Weather.	Lat.	Long.
Sunday, April	7th,	SE	SSE	Fair.	26,28	44,40
Monday,	8th,	SW	SW	Do.	28,18	44,00
Tuesday,	9th,	SW	SW	Do.	30,14	42,37

London and New York Liner MARGARET EVANS, E. G. Tinker, Commander.

From New York to London.

April	Lat.	Long.	Bar.	Th.	A.M.	Noon.	P.M.	Weather.
6th,	41,00	55,00	29,70	51	NNE	ESE	ESE	Moderate, cloudy. Strong & rain
7th,	42,30	53,00	29,30	32	ESE	SSW	SW	Light with thick fog. Thunder, lightning and rain
8th,	43,14	48,47	29,20	31	W	W	WNW	Strong. Hard. Hard gale.
9th,	43,58	43,32	29,70	51	WNW	WNW	WNW	Hard. Hard. Light and fine.
10th,	44,40	40,00	29,60	56	SSW	SSW		Light.

Contract Steam Packet NIAGARA, Capt. Alex. Ryrie.

Halifax to Liverpool.

(Communicated by their Lordships the Commissioners of the Admiralty.)

Time.	Wind.	
		Friday, April 5th.
		1,30 pm. Left Halifax.
		Saturday, April 6th.
am,	ESE	am. Moderate ESE breezes, and cloudy weather. 8. Strong do. with showers of rain. Noon. Do. weather. Lat. 43,53 Long. 59. pm. Fresh ESE gales, with heavy snow. 4. Do. and squally. 8. Strong breezes, with sleet and snow. 10. Squally, with heavy snow Midnt. Strong gales, with rain.
		Sunday, April 7th.
		am. Strong gales, with rain. 4. Do. weather. 8. Strong breezes and squally, with rain. 10. Thunder and lightning. Noon. Strong gales, with heavy rain and thunder. Lat. 44,18 Long. 56.
pm,	SE	pm. More moderate, wind SE. 8. Fresh winds and hazy weather. Midnt. Moderate winds and cloudy.
		Monday, April 8th.
am,	SW	am. Moderate SWly breezes, and cloudy weather. 4. Do. weather. 8. Fresh breezes, with rain. 10. Made sail. Noon. Fresh
pm,	WNW	breezes and hazy weather. Lat. 45,03 Long. 50,45 pm. Fresh breezes WNW. and dark gloomy weather. 3. Passed several small pieces of ice. 5. Passed several icebergs, and sighted a bumex of solid ice to the Eastward ; In all sail ; Altered course to Southward and Eastward to clear the ice. 7. Crossed some field ice, and steered South. 10. Course SE½E. Midnt. Strong breezes and cloudy weather. Course ESE.
		Tuesday, April 9th.
am.	N	am. Moderate Northerly breezes and cloudy weather. 4. Do. weather, made all possible sail. 8. Moderate breezes and fine weather. Noon. Fresh breezes and fine weather. Lat. 44,21. Long. 46,08. pm. Strong breezes (still N,) and cloudy weather 3. Altered course to E. 4. More moderate, with a heavy sea

(Log of Niagara continued.)

Time.	Wind.	
		from the NE. 8. Variable winds; in studding sails. 10. In main-topsail and top-gallant sail. Midnt. Calm. In all sail.
		Wednesday, April 10th.
		am. Calm and cloudy weather. Course. E. 4. Do. weather. 8. Light breeze from the Southward. Noon. Lat. 47.54 Long. 39,10.

Douglas Reid, Admiralty Agent.

Bark FRANCES WALKER, D. F. Hay, Commander.
Calcutta to London.

Time.	Course.	Wind.	Bar.	Th.	
					Saturday, April 6th.
					Noon. Lat. 34,20 Long. 34,15
					Sunday, April 7th.
am.	NNE	NW			Daylight. More moderate. 8 am. Fresh gale and
9		Vble.			hazy. 9. Let one reef out of topsails. Noon. Increasing
Noon,		Wly	30,13	66	wind, hazy; Ship pitching and labouring
pm.		W			heavily. Lat. 35,53 Long. 34,35 Course N15E
4		WNW			104 miles. pm. Strong gales & squalls and high
					sea; ship labouring heavily and shipping much
					water. 4 pm. Strong gales & squalls; heavy sea.
					8. Do. with thick hazy weather. Midnt. Strong
					gales and squalls, high sea, thick weather, ship labouring
					heavily.
					Monday, April 8th.
					am. Strong gales and squally, and thick weather.
8		Wto			6. More moderate. 8. Strong gale and hazy.
		WSW			Noon, Strong gales & thick weather & heavy sea,
					ship labouring & shipping much water. Lat. 38,3
pm.	NE	W			Long. 34,18 Course. N11E 136 miles.
2		WSW			pm. Strong gales and cloudy, squally weather.
					5. Increasing gale and hard squalls and rain.
					8. Strong gale, & hard squalls & rain. 10. Heavy
					squalls & rain. Midnight. Strong gales; heavy
					squalls and rain: very heavy sea throughout, ship
					labouring hard and shipping much water.
					Tuesday, April 9th.
am,		Vble			am. Strong gales & heavy squalls & rain. 4. Do.
		Wly			with flying clouds. 6. Increasing gale and sea, and
3		WNW			heavy squalls. 8. Heavy gales and violent squalls,
9,30	Hove to				clear weather and tremendous heavy sea. At 9,30
Noon			29,92	64	Hove the ship to. Noon. Strong gales, & violent
					squalls, and tremendously heavy sea. Lat. 40,00
					Long. 33,28 Course N17E 126 miles.
					pm. Strong gales, heavy squalls; very heavy sea,
					ship labouring heavily and shipping much water on
9		NW			deck. 4. Do. wind and weather. 8. More moderate.
					Midnight. Strong gale and hard squalls, and
					very heavy sea.
					Wednesday, April 10th.
					am. Strong gale; hard squalls, very heavy sea.

(Log of Frances Walker continued.)

Time. Course. Wind Bar. Th.
Noon 30,10 61 4 Do. weather and sea, 6. More moderate; sea
falling. Noon. More moderate and sea falling, let
pm, EbyN WNW the close-reef out of topsails. Lat. 40,44 Long.
8 Vble 32,15 Course N 44 E. 54 miles. pm. Decreasing
9 Wly wind and sea. 4. Moderate breeze, falling sea.
8. Moderate breeze & fine. Midnight. Increasing
breeze & fine.
Thursday, April 11th.
Noon. Lat. 42,10 Long. 29,53.

Ship WILLIAM MONEY, J. M. Buckley, Commander.
Mauritius to London.
(Communicated by F. W. Green, Esq.)

Time. Course. Wind.
Sunday, April 7th.
Noon. Lat. (about 34,00). Long. (about 37,30).
Midt. NEbyN NW Midnight. Weather moderating.
Monday, April 8th.
1 am. WSW am. Do. weather. 4. Made all sail to a single-reefed topsail
and top-gallant sails; thick hazy weather. 8. Do. weather,
with small rain, crossed main-royal yard, out first reef
of fore-topsail, and set fore-topmast studsail on port side,
and set flying jib. Noon. Lat. (about 39,30) Long. (about
32,20). pm. Strong breezes and hazy. 2. Set main-royal.
3. Increasing breeze, and thick cloudy weather; in fore-topmast
studsail, main royal, fore and mizen top-gallant sails,
and flying jib; sent down the mizen royal yard. 6. Reefed
the fore course and set it. 9. Set mainsail. 10,30. In 2nd
reef of mizen-topsail. Midnight. Excessively heavy squalls;
in main-topgallant sail.
Tuesday, April 9th.
3 am. Very heavy squall from NW, treble-reefed the topsails.
5. Furled the mainsail. Noon. Brisk gales, with
pm. E WNW hazy weather. Lat. 41,53 Long. 30,44. pm. Heavy gales
and cloudy; sea running very heavy; ship labouring heavily,
and running under treble-reefed topsails, and reefed fore
course. 4. Excessive heavy squalls, with hail and rain.
8. Do. weather. Midnight. Do.
Wednesday, April 10th.
6 am. NW am. Heavy sea running, ship labouring very heavily. 8,
pm. NWbyW Brisk gales and cloudy. Noon. Lat. 42,49 Long. 26,43
pm. Very heavy squalls & a high sea running, ship labouring
very much, and shipping a great quantity of water over
all. 4. Excessive heavy squalls, with rain at intervals. 8.
Squally and fine. Midt. Weather moderating.
Thursday, April 11th.
am. NWbyN am. Moderate weather. Daylight. Still moderating; mode
4 ENE all sail to a single reefed topsail and topgallant sails. Noon.
Steady breeze and clear. Lat. 43,49 Long 23,30.

Ship HASHEMY, from Madras to England.

(Communicated by Messrs. Heath and Palmer.)

Time.	Course.	Wind.	
			Monday, April 8th.
pm.	NEbyN	W	am. Fresh breeze, squally. 4. Do. Daylight. Fresh breeze,
			fine. Noon. Do. Lat. Obsd 36,26 Long. 29,30. pm.
			Strong breeze, fine. 8. Fresh breeze, hazy. Midnight.
			Do. weather.
			Tuesday, April 9th.
7 am.	ENE		am. Strong breeze, hazy. Daylight. Do. hazy, with rain.
9		SSW	8. Strong breeze, hazy, weather clearing. 10. Island of
10		Vble. to	Terceira in sight. Noon. Hard gusts off the land. Lat. Obs.
		S & W	38,36 Long. 27,4. pm. Fresh increasing breeze; fine
pm.		NW	weather, but heavy sea; ship rolling and taking in much
			water. 2. Strong breeze, squally. Midnight. Strong breezes,
			clear weather, heavy sea, ship labouring much, and shipping
			much water.
			Wednesday, April 10th.
			am. Strong breeze, fine weather. Daylight. Strong breeze,
			hard gusts, heavy sea, ship rolling much, and shipping water
			fore and aft. 8. Strong breeze, fine. 9. Breeze more moderate,
			less sea. Noon. Strong breeze, squally at times, with
pm.	EbyW	WNW	heavy sea. Lat. Obsd. 40,16 Long. 24,27. pm. Strong
			breeze and fine; very heavy sea breaking on board, fore and
			aft. 8. Heavy sea; do. weather. Midnt. Do. do.
			Thursday, April 11th.
am.		NW	am. Strong breeze, cloudy; heavy sea breaking on board.
6		NNW	7. Breeze more moderate and less sea. Noon. Moderate
pm.		NW	breeze, clear. Lat. Obsd 41,48 Long. 21,33. pm. Decreasing
11		W	breeze & fine. 4. Light winds & cloudy, sea falling fast.
			Friday, April 12th.
			Noon. Lat. 43,4 Long. 19,25.

Abstract Log of Schooner ROLLO, from Jersey to Newfoundland.

[Reduced from Nautical to Civil Time. Ed.]

(Communicated by C. Lequesne, Esq.)

Time.	Lat.	Long.	Wind.	Weather.
April. 9th,	47, 3	33,16	NNW	Strong breeze and squally with rain.
10th,	46,58	33, 9	to W	Strong gale with heavy squalls and rain.
11th,	47, 9	34,13	W	Moderate gale with a heavy head sea & rain.

Brig DOLPHIN, Jersey to Newfoundland.

(Communicated by C. Lequesne, Esq.)

Time.	Course.	Wind.	Bar.	Th.	
					Monday, April 8th.
		W	29,60		Noon. Lat. 46,39 Long. 26,15 Calm and fine.
pm.	WNW	SW			pm. Light breeze and cloudy. 8 pm. Dark squally
8	NW				weather, shortened sail accordingly. Midnt. Strong
					breeze and rainy weather.
					Tuesday, April 9th.
2 am.		WbyS			5 am. Getting more moderate, made more sail.

(Log of Dolphin continued.)

Time	Course.	Wind.	Bar.	Th.	
6	N				9 am Strong breeze and rainy weather, handed jib
Noon.		W	29,00	59	and main-trysail. Noon. Fresh breeze and cloudy
					weather. Lat. Acct. 47,38 Obsd. 47,31 Long.
6pm.		WNW			Acct. 29,57. pm. Moderate breeze and squally
8	SWbyW				weather. 8 pm. Strong breeze with heavy head
					sea : wore ship. Midnight. Do. weather.
6am.		NW			Wednesday, April 10th.
Noon.	Up W byN		29,00	59	8 am. Fresh gales, attended with a heavy head sea. Noon. Hard gales : hove the ship to. No Obsn.
2 pm.	Up W				Lat. DR. 47,26 Long. DR. 30,45. pm. Con-
					tinuation of heavy gales and squally weather, at-
Midt.	SW	WNW			tended with heavy hard sea, ship straining very
					much. 10 pm. More moderate ; set the fore-top-
					sail. Midnight. Do. weather
					Thursday, April 11th.
6 am.	NW	WSW			2 am. More moderate. Set the fore and main
					courses. 4 am. Wore ship to NW. Noon. Fresh
10		Wly			breeze and cloudy. Lat. DR. 46,58. Obsd. 46,46
					Long. DR, 31,25 Chr. 30,05 (?) Course made
Noon.			29,50	58	good, S 48 W 43 miles.

Schooner OCEAN, from Jersey to Newfoundland.
(Communicated by C. Lequesne, Esq.)

Time.	Course.	Wind.	
			Monday, April 8th.
			Noon. Lat. Obsd. 47,22 Long. Chr. 22,31 Midnt. Mode-
Midnt.	NW	SW	rate breezes and fair.
			Tuesday, April 9th.
			2 am. Strong breezes and rainy ; shortened sail. 7 am.
			More moderate. Set fore and main-topgallant sails and main
			royal. 11. Heavy squalls, with hard rain. Noon. Lat. DR.
			47,04 Obsd. 47,01 Long. DR. 24,47 Chr. 24,34. Strong
pm.	N	WNW	beeezes and squally weather. pm. Increasing gales and
			squally, with hard rain ; double-reefed the fore and main-
			topsails, reefed the main trysail, & handed the main square-
4 pm.	SW		sail. 4 pm. Tacked ship to Southward. 6 pm. Let the 2nd
			reef out of the main-topsail, and set the main-topgallant sail.
			Midnt. Fresh gales and cloudy weather.
			Wednesday, April 10th.
			8 am. Fresh gales, with heavy squalls. Noon. Continuation
			of gales, with a very high sea running, the ship labouring
			very much ; close-reefed the fore and main-topsails. Lat.
pm.		WbyN	DR. 45,47 Obsd. 45,52 Long. DR. 25,16. pm. Continued
			gales, attended with heavy showers of rain. 6 pm. Increas-
8	WbyS	NNW	ing gales, with heavy squalls. Midnt. Strong gales & squally
			with passing showers.
			Thursday, April 11th.
			4 am. More moderate, set the fore-topsail. 6 am. Do. wea-
			ther ; set the single-reefed main-trysail, jib, and square
			mainsail. 7 am. Let two reefs out of the fore and main-

9am.	N	topsails, and set the fore and main-topgallant sails. 9 am. Tacked ship. Noon. Moderate breezes and hazy weather. Lat. Acct. 45,56 Obsd. 44,54 Long. DR. 25,23.

London and New York Liner, WELLINGTON, Charles Chadwick, Commander.
New York to London.

Sun. April	7th.	Lat.	47,25	Long.	28,35
Mon,	8th		47,56		24,36
Tues.	9th.		48,55DR		21,04DR
Wed	10th.		49,03		19,36
Thurs.	11th.		49, 2		17,34

Contract Steam Packet AMERICA, Liverpool to Halifax.
(Communicated by their Lordships the Commissioners of the Admiralty.)

Time.	Wind.	
		Tuesday, April 9th.
pm.	S	Noon. Lat. 50,26 Long. 17,54 pm. Wind veering to the Southward. Fine weather. 8. Strong breezes SE and cloudy. Midnt. Fresh breezes and rainy weather.
8	SE	
		Wednesday, April 10th.
am.	SE	am. Fresh breezes SE, and cloudy weather. 4. Dark cloudy weather and heavy rain. 8. Fresh breezes, with rain. Noon. Fresh breezes and cloudy. Lat. 50,7 Long. 24,50 pm. Wind Easterly. Midnt. Variable and cloudy.
Noon.	E	
		Thursday, April 11th.
am.	Vble.	am. Variable winds and rainy. 4. Light winds and showery. Noon. Lat. 49,23 Long. 30,26.

R. M. West India Steam Packet SEVERN, Wm. Vincent, Master.
Southampton to the West Indies.

Time.	Course.	K.F.	Wind.	Bar.	
					Monday, April 8th.
					Noon. Lat. 44,13 Long. 18,25.
					Tuesday, April 9th.
4am.		6	SW	29,44	am. Moderate breeze and cloudy. 6. Drizzling
8am.	W½N	7	SSW	29,50	8. Fresh breeze and squally, with drizzling rain.
Noon.		6	SW	,46	Noon. Lat. Obsd. & DR 44,13 Long. DR 18,25. Moderate breeze and cloudy weather.
pm.			W		pm. Do. weather, with drizzling rain.
4		5,4		,34	6. Increasing breeze; with squally appearances.
8		5		,36	8. Strong breezes, with hard squalls.
Midnt.		5		,35	Midnt. Do. do. with rain, sea rising rapidly.
					Wednesday, April 10th.
am.		4	WNW	,36	am. Fresh gale, with hard squalls of wind & rain.
					4. Do. weather.
					6. Ship pitching and rolling heavily, and shipping
8		3		,36	a great quantity of water.
9	SWbyW				8. Do. with heavy squalls.
Noon.		3		,36	Noon. Strong gale, with heavy squalls and hgih

(Log of Severn continued)

Time.	Course.	K.F.	Wind.	Bar.	
pm.	WSW	3	NWbW	,36	sea.
8				,35	pm. Do. weather till Midnight.
9	WbyS	3	NW		Midnight. Fresh gales and squalls, with passing
Midnt.		3,4		,36	rain; ship pitching and rolling heavily.
					Thursday, April 11th.
4	W½S	4		,47	am. Fresh gales and squally. 4. Do. weather.
8	W½N	6	NNW	,56	8. Fresh gale with squalls.
					9. Out reef of foresail and set the inner jib.
					11,30 Out one reef of topsail.
Noon		7		,67	Noon Moderate breeze & fine. Lat. Obsd. 41,46
4	WSW	7		,75	Long. by Chr. 24.4
8	W	6,4	W	,83	pm. Moderate breezes and cloudy till Midnight.
Midnt.		5		,83	

Wm. Vincent, Jr. Midshipman.

Brig BRILLIANT, at Madeira.

(Communicated by Capt. J. B. Caldbeck.)

10th,	NW. West East.	Light winds these 24 hours.
11th,	SW, to NW.	Light winds and clear.
12th,	SW to NW.	Moderate winds and fine pleasant weather.

Pen. and Or. S N Co S S MONTROSE, J. Bowen, Commander.

Gibraltar to Southampton.

Time.	Course.	Wind.	Bar.	Th.	
					Monday, April 8th.
					Noon. Lat. 36,35. Long. 6.33.
					Tuesday, April 9th.
Noon.	9.	NNW	29,90	69	4 am. Fresh NW breezes and clear. Noon. Mo-
4	9.	WNW			derate and fine NNW. 4 pm. Moderate winds
					and dark cloudy weather. 6,29 Shackled to the
8		WSW	,80	65	buoy, off the Custom-house. 8. Increasing breeze
					with dark cloudy weather, with threatening ap-
Midt.		SW	,75	63	pearance to Southward. Midt. Strong winds and
					cloudy, with rain.
					Wednesday, April 10th.
					Strong SW gales with heavy rain. 2.30 In conse-
					quence of the heavy swell and strong tide the coal
					lighters broke adrift. 4. Do. gale with heavy
8		Wly	,60	62	squalls. 6. More moderate. 8. Fresh gale with a
Noon.		WNW			heavy swell, Noon. Fresh gale and cloudy. 1.45
4			,74		pm.| Passed Fort St. Julien. Strong winds and
5		NWbW			cloudy. 6. Moderate and hazy, with a swell from
8			,68		the Westward. 8. Moderate winds with light
Midt:		WNW	,70		squalls. Midnight. Squally with rain.
					Thursday, April 11th.
1	NNE½E	NW			am. Strong breezes & squally with a heavy swell
4			,60	57	from the Westward. 2. Fresh squalls with heavy
5		WbN			rain. 4. Strong winds and cloudy. 8. Strong
8			,60	58	breeze and cloudy with heavy Westerly swell, ship

Noon	NNE	,59	60	labouring much. Noon. Fresh gale and squally
2		,51	65	with rain, and a very high sea and swell from the Westward. Passed Oporto.

Jeremy Collier Angove, Chief Officer.

Abstract of the ISABELLA BLYTH's Journal, T. B. Hale, Commander.
London to Mauritius.
(Communicated by Messrs. H. D. and Jas. Blyth and Greene.)

April	Lat.	Long.	A Th.	W			6AM.	Noon.	6PM.	Midt.
9th.	43.17	12.22	55	55	Strong Wly winds	Wind.	SW	NW	WNW	NW
					at Noon SW	Bar.	29.75	29.50	29.60	29.75
10th.	42.23	10.43	58	55	Hard SW gale.	Wind.	W	SSW	SW	W
						Bar.	29.50	29.50	29.40	29.45
11th.	40.45	10.22	56	56	Heavy W gales.		W	W	W	W
							29,70	29,50	29,50	29,60
12th.	39.59	10.52	58	56	Light Wly winds.		WNW	W	NW	NW
							30.20	29.75	29.90	30.10

Penin. and Orient. Co. S. S. JUPITER, fromSouthampton to Gibraltar.
Francis Meehan, Commander.

Time.	Course.	Wind.	Bar.	Th.	
					Tuesday, April 9th.
					Lat. 49,44 Long. 3,36
					Wednesday, April 10th.
am. 4	W½S	W	29,10	51	Increasing breeze & clear weather, shipping much
5		WSW			water. 4. Fresh breeze and clear weather. 6. Set
6		SW			fore trysail and jib. 8· Strong breezes, shipping
7	WSW	S			much water. 9. Set main trysail. 10. In jib;
8			,10	51	squally and rain. Noon. Do. weather. Lat. by
10	SWbW				Obs. 48,32 Long by Chron 5.38 Cape Villano
Noon		SbW	,10	51	S 23 W 350 miles. pm. Strong breeze and cloudy
4			28,80	53	with a confused sea, shipping much water. 4, Do.
7	SW	WNWly			weather. 5. In fore and main trysails. 7. Set
8			,90	52	reefed fore and main trysails. 8. Strong breeze
Midt.			29,02	53	and squally weather, shipping much water. Midt. Do. weather, and a high sea.
					Thursday, April 11th.
1		WbN			am. Strong breeze and squally, with a high top-
4			29,00		ping sea, Noon. Lat. 46,34 Long. 7,19

Daniel G. Munro, First Officer.

London and New York Liner SOUTHAMPTON, E. E. Morgan, Commander.
London to New York.

Time.	Course.	Wind.	
8am.	S	NW	Tuesday, April 9th.
1PM.	SSW	WNW	4 am. Moderating; made sail. Noon. Lat. Obsd. 48.48
3	NNW	W	Long. 9,30 Strong breeze from NW. Ship under double-
5	NWbyW	SW	reefed topsails and whole courses. pm. Made all sail.

(Log of Southampton continued.)

Time.	Course.	Wind.	
			Wednesday, April 10th.
4 AM.		SE	am. rainy. Noon. No observation. Do. weather. Lat. DR.
			49,11 Long. DR. 12,21 pm. Calm with torrents of rain.
			Thursday, April 11th.
1 PM.		NNE	4 am. Breeze set in from NE. Clearing off made all sail.
5	'W	WNW	Noon. Lat. Obsd. 48.54 Long. 14,10 pm. pleasant wea-
7		NNW	ther throughout.
			Friday, April 12th.
8 to 10 AM.		Calm	pm. Do. weather. Noon. Lat. Obsd. 48.48 Long. 15,28

Bark SULTANA, D. Mainland, Commander.
London to Port Adelaide.

Time.	Course.	Wind	
			Wednesday, April 10th.
7 pm.	WbyS	ESE	Noon. Lat. (48,00) Long. (7,00.) pm. Light winds and
4	SW	WbyN	fine. At 2 pm. the wind suddenly shifted to the Westward,
Midt.	SSW		a fresh breeze and rain ; wind increasing rapidly. Midnight.
			Strong gales and squally.
			Thursday, April 11th.
10 am.	NW	WSW	am. Wind moderating. Noon. Moderate breeze and fine.
pm.	NbyW	WbyN	Lat. Obs. 47,41 Long. 7,12 pm. Strong steady breeze and
6	WbyS	NWbN	fine. 6. Fresh breezes. 8. Strong breeze, squally ; heavy
Midt.		NNW	head sea running, ship plunging heavily. Mid. Same weather
			Friday, April 12th.
8 am.		NW.	am. Strong winds, squally and passing showers. 8. More
			moderate. 10. Wind dying away. Noon. Light winds and
			fine. Lat. Obs. 46,25 (Long. by estimate9,00) pm. Light
4 pm.		WNW	airs and fine. 4. Wind inclining to WNW. 8. Light winds
8		W	at West, with drizzling rain.

B. M. Steamer COURIER, Jersey to Southampton.
Wednesday, April 10th.

SW	am, Strong breezes and cloudy. 8.15 Sailed from Jersey. 10,15 Arrived at
S	Guernsey. 10,50 Proceeded. Noon. More moderate. 0.25 pm. Passed the
SE	Caskets, 4. Strong breezes and cloudy. 4.20 Needles Cliff bearing EbN½N
ESE	distant 17 miles. 5 50 Abreast of the Needles Rocks. 73.5 Arrived at
	Southampton.

The continuation of this Storm will be found in the Light House Tables at the conclusion of Storm K.

§ XI.

Storm *G.*

Abstract from Log of Brig VELOCITY, Capt. Holmes.
From Oporto to Philadelphia.
(Communicated by Messrs. Newman and Hunt.)

Date	AM.	PM.		Lat.	Long.	Remarks.
Sun. 7th,	N	N	Fresh	36,12	74,41	Fresh wind and clear.
Mon. 8th,	WNW	SW	Moderate	37,20	74,50	Sounded 25 fathoms.
Tue. 9th,	NNW	SW	Strng,wd	38,21	74,42	a.m. Strong wind p.m. Light airs

London and New York Liner NORTHUMBERLAND, J. M. Lord, Commander.
London to New York.

	Course.	Wind.	Bar.	Th.	
					Monday, April 8th.
Noon	SW	WNW	30,00	37	Noon. Lat. Obsd. 41,29 Long. 61,14 Chr. Barometer on the stand 30, fine and clear with a fresh breeze. pm. A stiff breeze and clear weather.
4	NNW				4 pm. Tacked ship, unbent the fore topsail & bent another. 8 pm. Single reefed the topsails, same
10	NWbN	SW			weather. Midnight. Fine and clear.
					Tuesday, April 9th.
4 am.	WNW				3 am. Sharp lightning, weather looking very
9	N	WNW			squally, double reefed the topsails. 8 am. Fresh
Noon			29,20	43	breeze and cloudy. Noon. A strong breeze and squally weather. Lat. 42,15 Obsd. Long. 62,52 Chr. Barometer stands 29,20 pm. A gale from
1 pm.		NW			the NW and squally weather. 1 pm. Tacked ship and double reefed the topsails. [on starboard tack Ed.] 4 pm. Reefed and furled mainsail and jib, close reefed fore and mizen topsails and fore sail. 8 pm. A very high sea and ship labouring heavily and making some water. Midnight. Barometer rising, wind appears more violent than before.
					Wednesday, April 10th.
					4 am. More moderate. 8 am. Set single reefed
Noon,			29,50	38	topsails and courses. Noon. Fine weather & light breeze. Lat. 40,50 Obsd. Long. 63,36 Chr. Barometer rising.

S. L. Spencer, Mate.

R. M. W. I. St. Packet Co.'s S. CLYDE. At Bermuda.

Time.	Wind.	Bar.	
			Monday, April 8th.
Noon.	WNW	30,09	Light winds, Fine.
2		,00	Light.
4		,00	— —
6		,06	— —
8	Vble	,00	— —
10		,00	— ...
Midt.		,00	— —
			Tuesday, April 9th.
2 am.	SbW	30,01	Light breeze and cloudy.
4		29,98	— —
6	WSW		— —
8		30,00	Moderate. Fine.
10	WNW		— —
Noon.		30,00	— —
2	WNW	29,98	— —
4	NW	30,00	— —
6		,00	Steady and fine.
8		,03	Light.
10	WNW		— —
Midt.		,03	— —
			Wednesday, April 10th.
2 am.	NW	,00	Light breeze and cloudy.
4		,00	— —
6			— —
8	Calm	,05	— —
10	Vble.	,04	— —
Noon.	SWly	,11	— —

R. M. W. I. St. P. Co. St. Ship AVON. Bermuda to Southampton.

Time.	Course.		Wind.	Bar.	
					Monday, April 8th.
pm.	NEbyE		Vble.		Noon. Lat. Obsd. 33,21 Long. Chr. 62,11
					Tuesday, April 9th.
2		8.4		30,00	am. Moderate breeze. 2.30 Wind veered to SSW.
6		8.4	W	29,96	at 6. Squally from Westward with rain. 8. Breeze
					increasing, and Bar. falling steadily till Noon.
Noon	NEb	9.		,91	Noon. Fresh breeze and fine weather. Lat. Obs.
6 pm.	E½E	9.2	Wly	.82	35,11 Long by Chron. 58,58 pm. Strong breeze
8		9.	NW	,84	Bar. falling steadily. At 7.20 Squally appearance
Midt.		9.		,85	to NWward. Fresh breezes till Midnight. Bar.
					slowly rising, Midnight. Fresh breeze & cloudy.
					Wednesday April 10th.
4 am.		10.		,86	am. Fresh NWly breeze. Bar, rising steadily.
Noon		9.		,91	Noon. Strong breezes and passing clouds. Lat.
					by Acct. 37,18 by Obs. 36,58 Long. by Acct.
4		9.4		,90	55,04 by Chron. 54,56. [N. B. This vessel must
6		8.4		,92	therefore have been set to S & E of her reckoning
					(20) miles. Ed.] pm. Strong breezes and passing
					showers. Charles Gordon, Chief Officer.

Abstract from the Log of the CHANTICLEER, from Bahia to London.
(Communicated by Messrs. Newman and Hunt.)

Date.	Wind.		Weather.	Lat.	Long.
Monday, April 8th,	SW	SW	Fair.	28,18	44,00
Tuesday, 9th,	SW	SW	Do.	30,14	42,37
Wed. 10th.	SW	WSW	Hazy.	31.50	41,11
Thursday, 11th.	W		Showery.	34,10	39, 3

London and New York Liner MARGARET EVANS, E. G. Tinker, Commander.
From New York to London.

April	Lat.	Long.	Bar.	Th.	AM.	Noon.	P.M.	Weather.
9th,	43,58	43,32	29,70	51			WNW	Light and fine.
10th,	44,40	40,00	29,60	56	SSW	SSW	NW	Light. Strong & cloudy. Heavy rain. Light and fine.
11th,	45,17	36,29						

Contract Steam Packet NIAGARA, Capt. Alex. Ryrie.
Halifax to Liverpool.
(Communicated by their Lordships the Commissioners of the Admiralty.)

Time. Wind.

Wednesday, April 10th.

Noon. S Noon. Lat. 41,54 Long. 39,10 Fresh Southerly breeze and
4 pm. SbW cloudy weather. pm. Strong breezes and gloomy. 4. Do. with rain. 6. In 1st reef of topsails. 8. Do. weather, wind inclining
10 WSW Westerly. 10. WSW, out reefs and made sail. Midt. Moderate breezes and fine weather,

Thursday, April 11th.

am. WNW am. Moderate WNW breezes and cloudy weather. 4. Variable winds. 8. Strong WNW winds & fine weather, made sail. Noon. Moderate breezes and fine weather. Lat. 48,06 Long. 33.00 pm. Moderate winds and cloudy weather. 8. Fresh breezes with squalls and rain. Midnight. Do. weather.

Friday, April 12th.

Noon. Lat. 49,50 Long. 26,26

Abstract Log of Schooner ROLLO, from Jersey to Newfoundland.
[Reduced from Nautical to Civil Time. Ed.]
(Communicated by C. Lequesne, Esq.)

Time.	Lat.	Long.	Wind.	Weather.
10th,	46,58	33, 9	to W	Strong gale with heavy squalls and rain.
11th,	47,9	34,13	W	Moderate gale with a heavy head sea & rain.
12th,	48,2	35,00	W	Strong gale with heavy squalls at times.
13th,	47,45	34,42	NW	Hard gale with heavy squalls & heavy sea

Brig DOLPHIN, Jersey to Newfoundland.
(Communicated by C. Lequesne, Esq.)

Time. Course. Wind. Bar. Th.

Wednesday, April 10th.

Noon. Lat 47,26 Long. 30,45

(Log of Dolphin continued.)

Time.	Course.	Wind.	Bar.	Th.	
					Thursday, April 11th.
2 am.	SW	WNW			2 am. More moderate ; set the courses. 4. Wore ship to NW. Noon. Fresh breeze and cloudy weather ; set jib and main try sail, and let a reef out of the fore topsail. Lat. DR. 46,58 By Obs. 46,46 Long. DR. 31,25 Chr. 30,05 (!) Course made good S 48 W 43 miles. pm. Fresh breeze and clear weather, with heavy head sea. 6. Increasing breeze & heavy sea ; handed main trysail and jib. 8. Hard gales with squally weather, shortened sail to close reefed topsails. Midnight. Dark squally unsettled weather, attended with heavy showers of rain.
4	NW	WSW			
10		Wly			
Noon			29,50	58	
10 pm.	WNW	SW			
					Friday, April 12th.
4 am.	NW	WSW			am. Same weather. Noon, Continuation of heavy gales and squally weather with a heavy head sea. Lat. DR. 47,24 Obsd. 47,38 Long. DR. 32,44 pm. Continuation of heavy gales and squally weather attended with heavy showers of rain, and heavy head sea, ship straining very much.
6	N	WNW	29,60	59	
pm.		NWbW			
					Saturday, April 13th.
					6 am. Set courses reefed. Noon. Rather more moderate. Lat. Acct. 48,29 Obsd. 48,28 Long. By Acct. 33,05

Bark FRANCES WALKER, D. F. Hay, Commander.

Calcutta to London.

Time.	Course.	Wind.	Bar.	Th.	
					Wednesday, April 10th.
Noon	EbyN	NW	30,10	61	Noon. Lat. 40,44 Long. 32,15 8 pm. Moderate variable breeze and fine. 9. Wind Westerly. Midnight. Increasing breeze and fine.
9 pm.		Wly			
Midnight.		WSW			
					Thursday, April 11th.
am.	ENE				am. Strong breeze and clear. Noon. Strong breeze, squally and constant rain : Heavy cross sea running, ship taking in much water. Lat. 42,10 Long. 29,53 N54E 146 miles. pm. Strong breeze squally and rainy : high cross sea. shipping much water. 4. Strong breeze cloudy. 8. Increasing breeze, cloudy. Midnight. Strong gale, cloudy.
Noon.			29,58	76	
pm.	EbyN	SW			
					Friday, April 12th.
am.	ENE				am. Strong gale, squally and cloudy with rain at times. 4. Increasing gale. 8. Hard gales and squalls. 10. Wind shifted to WNW with heavy rain and violent squalls and high sea, shipping heavy on board. [Note by Capt. Hay. "10 AM. One of the heaviest squalls I ever experienced, but being well prepared under two close reefed
10		WNW	29,62		

Time.	Course.	Wind.	Bar.	Th.	
					topsails, as the Barometer was down to 29,62,
					sustained no damage ; the wind immediately flew
Noon		NW	29,73		to NW, with rising Barometer. D. F. H.] Noon
					Lat. 43,55 Long. 27,28 Course, N 50 E 158
pm.	E½N				miles. pm. Hard gales and squalls and high sea,
					ship labouring heavily. 4. More moderate. 5.
					Let one reef out of main topsail. 8. Strong gale
					and clear Midnight. Strong gale and falling sea.
					Saturday, April 13th.
4 am.		Wly			am. Strong gale. 4. Wind veering to West. 5.
7		Sly			Let one reef out of topsails, set mainsail. 8.
Noon			29,70		Wind veered to SW. Noon. Lat. 44,40 Long.
					23,40

Schooner OCEAN, from Jersey to Newfoundland.

(Communicated by C. Lequesne, Esq.)

Time.	Course.	Wind.	
			Thursday, April 11th.
Noon.	NNW	WNW	Noon. Lat. Obs. 44,56 Long. 25,21 pm. Moderate breeze
			and hazy weather with all standing sails set. 8 pm. Fresh
			breezes and clear. Midnight. Strong and cloudy.
			Friday, April 12th.
			4 am. Increasing breezes, handed the topgallant sails, and
			single reefed the main topsail & main trysail. 6 am. Double
			reefed the topsails. 7. Reefed the courses. 8. Fresh gales
			with hard rain, stowed the jib and main trysail. 11 am.
11 am.	SW	NW	Wind chopped round to NW : tacked ship to Southward.
			Noon. Lat. Obsd. 45,18 Long. DR. 27.00 pm. Continued
			gale and squally with a heavy head sea on. 4 pm. Close
Midt.	N		reefed the fore and main topsails. Midnight. Moderate gales
			and cloudy ; tacked ship to Northward.
			Saturday, April 13th.
			4 am. More moderate ; cloudy ; set the single reefed main
6 am.		WSW	trysail and jib ; let two reefs out of the top-sails. 6. Let
			the reefs out of the courses, and two reefs out of the fore
			topsail. 8. Set the topgallant sails. 10. Increasing breezes
			and rainy. Noon. Lat. DR 44.49 Long. DR 27,48

Ship HASHEMY, from Madras to England.

(Communicated by Messrs. Heath and Palmer.)

Time.	Course.	Wind.	
			Thursday, April 11th.
pm.	EbyN	NW	Noon. Lat. Obs. 41,48 Long. 21,33 4 pm. Light wind
11.		W	fine. 8. Light wind, sea falling fast. Midnight. Light wind
			and fine.
			Friday, April 12th,
am.		WSW	am. Light wind and cloudy. 4. Increasing with rain. 6 to
7.		S	10. Moderate breeze. Noon. Fresh breeze. Lat. 43.4 Long.
pm.		SW	19.25. pm. Mod. breeze & cloudy. 7. Squally appearance.

(Log of Hashemy continued.)

Time.	Course.	Wind.	
			8. Squally with rain. Midnight. Fine weather.
			Saturday, April 13th.
am.		NW	am. Moderate and fine, smooth water. 7. Variable to Westward.
7.		Vble toWd.	Noon. Light variable winds at Southward & Westward.
			Lat. Obs. 44,36 Long. 17,00

R. M. West India Steam Packet SEVERN, Wm. Vincent, Master.
Southampton to the West Indies.

Time.	Course.	K.F.	Wind.	Bar.	
					Thursday, April 11th.
					Noon, Moderate breeze & fine. Lat. Obsd. 41,46
8	W	6,4	W	29,83	Long. by Chr. 24.4
Midnt.		5		,83	pm. Moderate breezes and cloudy till Midnight.
					Friday, April 12th.
am.			WSW		am. Moderate breeze and fine.
4		6,4		,81	4. Do. do.
8		6,4	SW	,80	8. Do. do.
Noon		6,		,75	Noon. Moderate breeze and cloudy. Lat. Obsd.
pm.	WNW		WSW		40.17 Long. by Chron. 20.29
2		5,6	W		
4	W½N	5,6		,80	4. Increasing breeze and fine. 6. Do. do.
8		5,4	NW	,80	8. Moderate breeze and fine.
Midt.		5,6		,80	Midnt. Moderate breeze and cloudy.
					Saturday, April 13th.
am.		6,	W		am. Moderate breeze and fine all this forenoon.
4		6,4	SSW	,84	10.30 Squally. Noon. Lat. Obsd. 39.23. Long.
8		7,		,84	by Chron. 26.31.

Wm. Vincent, Jr. Midshipman.

Brig BRILLIANT, at Madeira.
(Communicated by Capt. J. B. Caldbeck.)

11th,	SW to NW.	Light winds and clear.
12th,	SW to NW.	Moderate winds and fine pleasant weather.
13th,	SW to NW.	Light airs and cloudy.

Ship WILLIAM MONEY, J. M. Buckley, Commander.
Mauritius to London.
(Communicated by F. W. Green, Esq.)

Time.	Course.	Wind.	
			Thursday, April 11th.
Noon.	ENE	Wly	Noon. Lat. 43,49 Long. 23,20 pm. Light variable breezes
6 pm.	EbyN		and cloudy. 6. Increasing breeze and cloudy with thick
8.		SW	drizzling rain. 10. Set all starboard studsails. Midnight.
			Squally, shortened sails.
			Friday, April 12th.
am.		WSW	am. Ditto weather. 4. Squally with rain. Daylight. In fore
			and mizen topgallant sails. Noon. Still very squally. No
			Lat. or Long. Distance run 156 Knots about EbyN,
pm.		SW	[Position, about 45,00 N 21,00 W.] pm. Excessive heavy

squalls, with thick drizzling rain; in topgallant sails, jib & 2nd reef of topsails. 6 pm. Increasing squalls with thick weather; reefed the courses, and treble reefed the topsails,
10. NW and handed the mainsail. 10 pm. Sudden shift to the NW. and clear weather. Out 3rd reef of main topsail, and set main topgallant sail.

Saturday, April 13th.

am. Weather moderating, set jib and mainsail. 4. Moderate weather; out all reefs, and set topgallant sails & port stud-
9. SW sails. 8. Fine pleasant weather. Noon. Decreasing breeze and clear weather. Lat. 46.54 Long. 18.20 Distance run 152 knots about EbyN.

Contract Steam Packet AMERICA, Liverpool to Halifax.

(Communicated by their Lordships the Commissioners of the Admiralty.)

Time. Wind.

Wednesday, April 10th.

Noon. Lat. 50.7 Long. 24,50

Thursday, April 11th.

am. Vble. 4 am. Light winds and showery. 8. Strong breezes and cloudy
Noon. WSW with rain. Noon. Fresh breezes and clear weather. Lat. 49.23 Long. DR. 30.26 Chr. 30.20 pm. Fresh breezes and cloudy weather. 4. Strong breezes. Do. weather. 8. Strong breeze and squally with rain. Midnight. Fresh gales and squally, with lightning and rain.

Friday, April 12th.

am. WbS am. Heavy squalls with much rain. 4. Squally with a high sea. 8. Strong gales and squally weather. Noon. Heavy squalls.
Noon. WNW Revols. per min. 8½ Lat. 49.14 Long. DR. 34.50 pm. Brisk gales and squally weather. 4. Do. weather with a very heavy sea. 8. Do. weather. sea running very high. Midt. Wind more mod.

Saturday, April 13th.

am. WNW Moderate breezes and squally. 4. Do. 8. Fresh breezes and cloudy with a heavy confused sea. Noon. Squally with rain. Lat. 48.17 Long. Chr. 37.30

London and New York Liner, WELLINGTON, Charles Chadwick, Commander.

New York to London.

Wed.	April 10th.	Lat.	49,08	Long.	19,36
Thurs.	11th.		49, 2		17,34
Fri.	12th.		49, 8		15,58
Sat.	13th.		49,19		10,49

London and New York Liner SOUTHAMPTON, E. E. Morgan, Commander.

London to New York.

Time. Course. Wind.

Thursday, April 11th.

5 pm. W WNW Noon. Lat. Obsd. 48.54 Long. 14.10 pm. Pleasant wea-
7 NNW ther throughout.

Friday, April 12th.

8 to 10 am. Calm. am. Do. weather, Noon. Lat. Obsd. 48.48 Long. 15.28

(Log of Southampton continued.)

Time.	Course.	Wind.	
10 am.	NWbyW	WSW	pm. Fresh winds increasing gradually up to 8 pm.; took in
pm.	NWbyW	SW	sail as the breeze freshened. 9 pm. Double-reefed topsails.
1pm.	NNE	WNW	10 pm. Close-reefed topsails and furled mainsail.
			Saturday, April 13th.
			Middle part (am.) Strong westerly gales & very high sea, causing
			the ship to labour and strain hard. 6 am. Moderated;
8 am.	N		Made sail. Noon. Moderate breeze and rough sea, ship
			under double-reefed topsails. Lat. Obsd. 49.48 Long. 18.20

Abstract of the ISABELLA BLYTH's Journal, T. B. Hale, Commander.
London to Mauritius.
(Communicated by Messrs. H. D. and Jas. Blyth and Greene.)

April	Time.	Lat.	Long.	Bar.	A. Th.	W.	Wind.
11th.	Noon.	40.45	10.22				
	6PM.			30,20			
	Midt.			29,75			
12th.	6AM.			29,90			
	Noon.	39.59	10.52	30,10	58	56	Light Wly winds.
13th.	Noon.	38.12	10.37	30,25	61	58	Light Wly winds.

[Through an accident in setting up the Log of the MONTROSE for Storm *F.* at Pages cxiv - cxv, a portion of it was omitted; the following paragraph should be added at the 3rd line of Page cxv.

Time.	Course.		Wind.	Bar.	Th.	
						*Passed Oporto. pm. Fresh gale and squally.
2				,51	65	1.30 Increasing gale, with heavy squalls; in main
3	NNE	8.	WbN	,50	65	trysail, and reefed foretopsail. 3.30 Wind and sea
						increasing. Ship labouring and straining much.
						Close-reefed fore and main trysails, and set them.
4	NbyE	8.		,49	61	4. Continued gale. In squaresail and topsail, and
5		6.		,48	59	sent down foreyard. 5. Mount Tecla EbyN½N 10
6	N			,54	57	miles. 6. Continued gale, with heavy squalls and
						rain. 6.45 Mount Tecla SE about 4 leagues.
8		7.	WNW	,67	57	8. Strong gale and hazy, with a very high sea.
9	NW	5.4				8.30 Slowed the engines. Midnt. Strong winds
Midt.				,75	60	and squally, with heavy rain at times.
						Friday, April 12th.
1	NW		NWly			am. Squally, with rain. 2.30 Rounded to, head
3	SEbyE					SEbyS. 4. Wind moderating, with a very heavy
4		5.	NNW	,80	56	swell from the Westward. 4.30 Stood in full
						speed for Vigo Bay. 7. South extreme of Bayona
8	Var.	8.		,93	66	Islands NNE about 2 miles. 8. More moderate,
						with passing showers. 8.15 Anchored off Vigo;
						delivered mails and landed passengers. 10. Received
						H. M.'s mails. 10.15 Weighed and proceeded.
Noon	NbW	7.4	W	30,01	67	Noon. Moderate and cloudy. Noon. Onza
						Island East 3 miles.]

Pen. and Or. S N Co S S MONTROSE, J. Bowen, Commander.

Vigo to Southampton.

Friday, April 12th.

Time.	Course.		Wind.	Bar.	Th.
1		7.	WNW		
4		8.		30,00	59
5		7.			
6		8.			
7	NE	8.	WbyN		
8		9.		30.05	57
Midt.		9.		30,	56

Noon. Onza Island E 3 miles, i. e. Lat. 42.23 Long. 8.50 pm. Light breezes with a heavy head sea. 4. Light breezes and passing showers. 4.50 Cape Finesterre ESE distant about 5 miles. 6. Moderate and cloudy; Cape Toriana SEbyE 4 or 5 miles. 8. Do. weather. 8.30 Exchanged signals with steamer to Westward, and passed her, supposed to be H. M. St. V. LOCUST. Midt. Steady breeze and fine.

Saturday, April 13th.

Time.	Course.		Wind.	Bar.	Th.
1	NE	9.4	W		
4			WSW	29,95	55
6			SWly		
7			WbS		
8				.92	57
1pm.		8.4	NW		
4		9.		.97	63
6		9.		.98	57
8		9.	NNW	30.00	56

Fresh breeze and fair. 4. Moderate and cloudy. 6. In trysails and jib. 8. Fresh breeze and hazy with light rain. Noon. Moderate winds and thick hazy weather, with drizzling rain. Lat. 45.41 Long. Acct. 8.00 Ushant N 35¼ E 205 miles. pm. Moderate and cloudy. 2. Fresh breezes and fine. 3.17 pm. Long. Obsd. 7.40 4. Do. weather. 6. Light breezes and fine. 7. Light variable wind. 8. Moderate and fine.

Sunday, April 14th.

11.5 am. Ushant Light-house ESE 7 miles.

[*Through an accident in setting up the Log of the JUPITER for Storm *F*. at Page cxv, a portion of it was omitted; the reader is requested to cancel the paragraph commencing Thursday, April 11th, and to substitute the following.

Thursday, April 11th.

Time.	Course.		Wind.	Bar.	Th.
1 am.			WbyN		
4				.00	
8			SW	,12	
Noon.				,15	
1 pm.			W		
4		6.4	WNW	,30	54
8		6.4	NNW	,35	53
Midt.		6.4	WNW	,46	57

am. Strong breeze and squally with a high topping sea. 4. Do. weather. 6. Strong breeze & westerly swell. 8. Do. weather, in all sail. 10. Passing squalls and rain. Noon. Brisk gale and high sea. Lat. Obs. 46.34 Long. Chr. 7.19 pm. Fresh breeze and cloudy with heavy westerly swell. 4. Do. weather, set fore and main trysails and jib. 8. Fresh breeze & heavy westerly swell. 9. Squally and heavy rain. Midnight. Fresh breeze and clear weather.

Friday, April 12th.

Time.	Course.		Wind.	Bar.	Th.
4		6.4		,58	57
7		6.4	NWbW		
8		6.4		,80	
10			SWbW		

Fresh breeze and clear weather. 4. Steady breeze and fine weather with heavy westerly swell. 7. Set fore topsail. 8. Moderate breeze and heavy westerly swell. Noon. Fresh breeze and cloudy weather. Lat. Obsd. 41.10 Long. Chron. 8.36 Acct. 8.31]

Penin. and Orient. Co. S. S. JUPITER, from Southampton to Gibraltar.
Francis Meehan, Commander.

						Friday, April 12th.
						Noon. Lat. by Obs. 41.10 Long. by Chro. 8.36
1	SWbW	7.				Acct. 8.31 pm. Fresh breeze & fine weather with
2		7.	WNW			much swell. 4. Fresh breeze and cloudy weather.
4		7.		29,90	65	7.30 Passed a Steamer standing to Northward.
7	WSW	7.	W			8.40 Passed a Steamer standing to Northward;
8		7.		30,00	60	Made P. & O. Night-signal, not answered. Midt.
Midt	SW	7.		30,00	61	Moderate breeze & cloudy weather with W'ly swell.
						Saturday, April 13th.
4		7.	Vble.	30,00	62	am. Moderate breeze and clear weather. 4. Do. weather. 8. Fresh breeze & clear. 9.30 Anchored off Vigo. Noon. Strong breeze & cloudy weather. At 40 minutes pm. *landed Oporto mails in consequence of unsettled state of weather.*

Bark SULTANA, D. Mainland, Commander.
London to Port Adelaide.

Time.	Course.	Wind.	
			Thursday, April 11th.
			Noon. Lat. 47.41 Long. 7.12
			Friday, April 12th.
8 am.	WSW	NW	am. Strong winds, squally & passing showers. 8. More moderate. 10. Wind dying away. Noon. Light airs & fine. Lat.
4 pm.		WNW	46.25 Long. [9.00] pm. Light airs and fine. 8 pm. Light
8	SSW	W	winds, drizzling rain. Midnt. Fresh breeze, cloudy.
			Saturday, April 13th.
2 am.	NW	WSW	am. Increasing breeze, small rain. 7. Strong breeze, rain.
8	WSW	NW	9. Moderate and fine. Noon. Light winds, fine. Lat. Obsd.
Noon.		WNW	46.5 Long. 9.58.

R. M. Steamer COURIER, Southampton to Jersey.

	Friday, April 12th.
SW	Midnt. Light breezes and fine. Started from Southampton.
	Saturday, April 13th.
WSW	am. 1.15 Abreast of the Needles. 7.20 Abreast of the Caskets. 8.50 Arrived at Guernsey. 11.30 Arrived at Jersey. Noon. Strong breezes and cloudy. 4 pm. Do. and rain.

The continuation of this Storm will be found in the Light-House Tables at the conclusion of Storm K.

§ XII.

Storm *H.*

Abstract from Log of Brig VELOCITY, Capt. Holmes.
From Oporto to Philadelphia.
(Communicated by Messrs. Newman and Hunt.)

Date	AM.	PM.	Lat.	Long.	Remarks.
Tue. 9th,	NNW	SW	38,21	74,42	p.m. Light airs
Wed. 10th.	SE	E			Snow showers. At 7 Cape Henlopen NNW 8 miles.
Thu. 11th,	SSW	SSE			Fresh a.m. Moderate. p.m. Strong wind. At 10 came to off Chester

London and New York Liner NORTHUMBERLAND, J. M. Lord, Commander.
London to New York.

	Course.	Wind.	Bar.	Th.	
					Wednesday, April 10th.
Noon.			29,50	38	4 am. More moderate. 8 am. Set single reefed topsails and courses. Noon. Fine weather & light breeze. Lat. 40,50 Obsd. Long. 63,36 Chr.
6 pm.	WbS	NW by N	29,50		Barometer rising. pm. The next 24 hours light breeze and fine weather. 8 pm. Made all sail to
10	WbyN	N			the breeze.
					Thursday, April 11th.
8 am.		NNE			4 am. Do. weather. 8. Do. Set all starboard studding sails.
Noon.			29,90	49	Noon. Pleasant and light breeze. Lat. 40.10 Obsd. Long. 65,39 Barometer on the stand.
pm,		E			pm. Light breeze and fine weather, all possible sail set.
					Friday, April 12th.
am.					am. Do. weather all this forenoon.
Noon.			30,00	47	Noon. Lat. 40.06 Obsd. Long. 68.00 Chr. Bar. standing.

S. L. Spencer, Mate.

R. M. W. I. St. Packet Co.'s S. CLYDE. At Bermuda.

Time.	Wind.	Bar.		
			Wednesday, April 10th.	
10am.	Vble.	30,04	Light breeze and fine.	
Noon.	SWly	30,11	—	—
2		,08	—	—
4		,00	—	---
6		,00	Moderate	
8		29,97	—	—
10		30,00	Fresh,	
Midnt.		,00	—	—
			Thursday, April 11th.	
2am.	WSW	29,98	Fresh winds and cloudy.	
4		,97	—	—
6		,87	—	Fine.
8		,87	—	—
10			Moderate.	
Noon.			—	—
2	WbyS		Fresh	Clear weather.
4	W		Moderate.	
6			—	—
8			Fresh	and fine.
10	SW	,78	Strong and cloudy.	
Midnt.		,76	Fresh.	
			Friday, April 12th.	
2 am.	W		Fresh, passing squalls.	
4		,79	—	—
6			—	—
8	WbyN	,74	Moderate.	Cloudy.
10	W	,75	—	—
Noon.		,77	Light.	Cloudy.

R. M. W. I. St. P. Co. St. Ship AVON. Bermuda to Southampton.

Time.	Course.		Wind.	Bar.		
						Wednesday, April 10th.
						Noon. Lat. by Acct. 37.18 Obsd. 36.58 Long.
8 pm.		9,4		29,86	4	by Acct. 55.04 Chr. 54.56 8 pm. Strong breezes
						and cloudy. 9. Squally. 10. Fresh gales. Bar.
Midt.	ENE	9,6	W	,80	1	falling fast. Midnt. Do. weather. Altered course,
						under one sail only.
						Thursday, April 11th.
2 am.	—	9,		,78	2	Strong gales and squally, with a heavy sea running
4	—	9,		,70		and ship rolling heavily. 2. More moderate. 4.
6	—	8,6	Vble.	,65		Strong breeze and squally, with rain. 6. Moderate
						with constant rain. 7.20 Set top-gallant sails,
8	—	8,4	NWly	,60	6	gaff topsail, middle staysail, and fore trysail.
10	EbyN	7,6	Nly	,58	5	8.30 Squally, with rain, wind hauling to North.
Noon.	—	7,6		,57		10. Strong breeze & rain. Noon. Strong breeze
						and cloudy. Lat. by Acct. 38.48 Long. by Acct.
						51.5 pm. Squally, with strong breeze & cloudy.
2 pm.	ENE	7,6	Vble,	,61	4	Bar. rising. 3. Wind veering to NNW & more

6.	9.	NNW	.70	6	moderate. 4 to 10. Strong breeze and cloudy.
10.	9.	Vble to	.73		10.30 Squally from Northward and Eastward.
Mid.EbN	9.	NNE	.75	6	Midnt. Squally; wind heading.
					Friday, April 12th.
4am.	7.6	Vble to NE	.78		am. Moderate breezes. Do. weather all this forenoon. Noon Lat. by Acct. 40.24 By Obsd. 40.04 Long. by Acct. 47.20 By Chron. 46.57 [This vessel must therefore have been set to S & E of her reckoning, about 25 miles. Ed.]

Charles Gordon, Chief Officer.

Abstract from the Log of the CHANTICLEER, from Bahia to London.

(Communicated by Messrs. Newman and Hunt.)

Date.		Wind.		Weather.	Lat.	Long.
Wed.	10th.	SW	WSW	Hazy.	31.50	41,11
Thursday,	11th.	W	W	Showery.	34,10	39, 3
Friday,	12th,	NNW	S & W	Showery.	36,29	36,35

London and New York Liner MARGARET EVANS, E. G. Tinker, Commander.

From New York to London.

April	Lat.	Long.	Bar.	Th.	AM.	Noon.	P.M.	Weather.
10th,	44,40	40,00	29,60	56			NW	PM. Light and fine.
11th,	45,17	36,29	29,40	56	SW	W	WSW	Squally. Strong squally and rain, bad weather.
12th,	46, 5	31,26	29,30	56	W	WNW	WNW	Blowing hard & heavy squalls Moderate.
13th,	46,50	28,00	29,70	56	W	SSW	NE	Light. Light and cloudy, and rain. Strong.

Contract Steam Packet AMERICA, Liverpool to Halifax.

(Communicated by their Lordships the Commissioners of the Admiralty.)

Time.	Wind.	
		Friday, April 12th.
		Noon. Lat. 49,14 Long. DR. 34.50
		Saturday, April 13th.
am.	WNW	am. Moderate breezes and squally. 4. Do. do. 8. Fresh breezes and cloudy, with a heavy confused sea. Noon. Squally, with rain. Lat. 48,17 Long. Chr. 37,30 pm. Rainy. 4. Ditto and squally. 8. Fresh breezes with frequent squalls. Midt. Moderate breezes and cloudy weather.
		Sunday. April 14th.
am,	NNE	Increasing breezes with hail. 4. Hard gales, with a heavy sea. 8. Strong gales with a high sea. Noon. Wind more moderate.
Noon.	NW	Lat. 47.24 Long. Chr. 42.15.

Brig DOLPHIN, Jersey to Newfoundland.

(Communicated by C. Lequesne, Esq.)

Time.	Course.	Wind.	Bar.	Ther.	
					Friday, April 12th.
pm.	NbE	NWbW	29.60	59	Noon. Lat. Obsd. 47.38 Long. 32.44 pm. Con-

(Log of Dolphin continued.)

Time.	Course.	Wind.	Bar.	Th.	
					tinuation of heavy gales & squally weather attended with heavy showers of rain, and heavy head sea, ship straining very much.
					Saturday, April 13th.
4am.	NNW	W			6 am. Set courses reefed. Noon. Rather more
8.	N	WNW			moderate, with a heavy head sea. Lat. DR. 48.29
Noon.			29.50	56	Obsd. 48.28 Long. DR. 33.05 pm. Light winds
pm.	NNE	NW			with a heavy head sea. 8 pm. Calm.
8.		Calm			
					Sunday, April 14th.
Noon.			29.45	54	Noon. Lat. Acct. 48.21 Long. Acct. 38.35

Abstract Log of Schooner ROLLO, from Jersey to Newfoundland.

[Reduced from Nautical to Civil Time. Ed.]

(Communicated by C. Lequesne, Esq.)

Time.	Lat.	Long.	Wind.	Weather.
12th,	48, 2	35,00	W	Strong gale with heavy squalls at times.
13th,	47,45	34,42	NW	Hard gale with heavy squalls & heavy sea
14th,	46,27	35,57	NWbyW	Moderate gale, but squally with rain.

Contract Steam Packet NIAGARA, Capt. Alex. Ryrie.

Halifax to Liverpool.

(Communicated by their Lordships the Commissioners of the Admiralty.)

Time,	Wind.	
		Thursday. April 11th.
		Noon. Moderate breezes & fine weather. Lat. 48.06. Long. 33.00
pm.	WNW	pm. Moderate winds and cloudy weather. 8. Fresh breezes with squalls and rain. Midnight. Do. weather.
		Friday, April 12th.
am.	SW	Strong SWly breezes and squally, with lightning. In studding sails, and topgallant sails. 2. Reefed the topsails. 4. Strong gales and cloudy weather. 8. Do. weather. Close-reefed main-topsail, and in main trysail, and up foresail. Noon. Do. weather.
pm.	WNW	Lat. 49.50 Long. 26.26 pm. Strong WNWly breezes & cloudy weather. 6. Set studsails on both sides. 8. Moderate breezes
Midt.	Vble.	and cloudy weather. Midnt. Do. variable.
		Saturday, April 13th.
am.	Vble.	am. Light variable breezes, Noon. Do. weather. Lat. 50.46 Long. 19.20 W Moderate and variable breezes and fine weather. pm. Do. weather. Midnt. Do. and cloudy.
		Sunday, April 14th.
am.	SSE	am. Moderate SSE winds and variable. 4. Strong breeze with
Noon.	SW	rain. 8. More moderate. Noon. Moderate SW winds and fine
pm.	SSW	weather. Lat. 51.16 Long. 13.17 pm. Fresh SSW breezes &
8.	E	cloudy weather. 4. Do. weather. 8. Wind Easterly. Midnt. Fresh breezes and squally.
		Monday, April 15th.
am.	S	am. Wind Southerly and squally, with rain. 1.30 Passed Cape Clear. 8. Moderate breezes and fine weather.

Douglas Reid, Admiralty Agent.

Schooner OCEAN, from Jersey to Newfoundland.

(Communicated by C. Lequesne, Esq.)

Time.	Course.	Wind.	
			Friday, April 12th.
			Noon. Lat. Obsd. 45.18 Long. DR. 27.00.
			Saturday, April 13th.
am.	N	WNW	4 am. More moderate; cloudy; set the single reefed main
6	NW	WSW	trysail and jib; let two reefs out of the top-sails. 6. Let
			the reefs out of the courses, and two reefs out of the fore
			topsail. 8. Set the topgallant sails. 10. Increasing breezes
			and rainy, handed the fore and main topgallant sails, and
Noon.		SE	stowed the jib. Noon. Lat. DR 44.49 Long. DR 27,48
2pm.		SEbS	Strong gales with hard rain, double-reefed the fore topsail
4.		SW	and stowed the main trysail. pm. Strong gales and variable
6.	WbyN	NNE	with hard rain. 2 pm. The wind chopped round to ENE;
8.		N	the fore topsail split in the body, handed it and the square
10.	W	Vble	mainsail, and reefed the foresail and close reefed the main
Midt.		Calm	topsail. 4 pm. More moderate, 6 pm. Set the jib. Midnt.
			Calm and cloudy.
			Sunday, April 14th.
			Noon. Lat. Obsd. 44,34 DR 44,37 Long. by Acct. 28.52

Bark FRANCES WALKER, D. F. Hay, Commander.

Calcutta to London.

Time.	Course.	Wind.	Bar.	
				Friday, April 12th.
Noon.			29.73	Noon. Lat. 43.55 Long. 27.28
				Saturday, April 13th.
am.	E½N	NW		am. Strong gale but moderating. 4. Wind veering
4.		Wly		to W 5. Let one reef out of topsails, set mainsail
7.		Sly		8. Wind veered to SW. 9. Squally with rain and
8.		SW		increasing gale. 10. Close reefed the topsails
Noon.		S	29.70	Noon. Increasing gale and hard squalls with rain
				and high sea, ship labouring heavily. Lat. 44.40
				Long. 23.40 pm. Increasing gale and sea and
2pm.	SE	SbE		hard squalls. 2 pm. Hove the ship to, [on star-
4.		Vble.		board tack.] the wind veering to SE. 4. Hard
				gales and violent squalls and a high sea, ship
5.			29.23	pitching heavily. 5. Increasing gale, violent squalls
6.		SW		and rain. 6. Tremendous heavy gale and very
				violent squalls (wind veering to the SW) and
				tremendous heavy sea, ship labouring heavily and
8.	Sly	W		shipping very heavy seas. 8. Same weather. 9.
9.		NW		Wind veering to NW Midnt. More moderate.
10	SW			[Remark by Capt. Hay, "Noon 13th to Noon
				14th, Very heavy gale, veering from SE to NW,
				with a tremendous sea on; lying to under close
				reefed main topsail, every thing double lashed.
				AM. 14th. More moderate. D. F. H."]
				Sunday, April 14th.
				am. More moderate & squally with rain. 2 More
Noon.		Wly	29.45	moderate, sea falling. Noon. Lat. 44.35 Long.
				24.41.

R. M. West India Steam Packet SEVERN, Wm. Vincent, Master.
Southampton to the West Indies.

Time.	Course	K.F.	Wind.	Bar.	
					Friday, April 12th.
					Noon. Lat. Obsd. 40.16 Long. Chr. 23.29
					Saturday, April 13th.
am.		6.	W		am. Moderate breeze and fine all this forenoon.
8 am.	W½W	7.	SSW	29,84	8 am. Moderate breeze and fine. 10.30 Squally.
Noon.		6.4	WSW	,80	Noon. Lat. Obsd. 39.23. Long. by Chron. 26.31.
					Strong breeze and squally.
pm.	WNW				pm. Fresh breeze and cloudy.
4	W	5.		,71	4. Do. weather. 6. Do. and light rain.
8		4.4	W	,75	8. Strong breeze and squally, with rain.
Midt.	WbyS	4.6		,76	Midt. Do. weather.
					Sunday, April 14th.
					am. Moderate gale and overcast.
					3. Observed the Island of Terceira S½E.
4	W½N	6.	NW	,82	4. Extremes of do. SW½W and SSE½E.
					7. Pt. del Topa (St. George's) West.
8		7.		,80	8. East Point of Pico WNW, Pt. del Topa NWbN
					9. SW end of St. George's East; running along
					the land, off shore 1½ mile.
					11. Centre of Fayal NWbyW½W
Noon.		8.		,80	Noon. Fresh breeze & hazy. NW end of Pico bearing
pm.			WNW		WNW 6 miles.

Wm. Vincent, Jr. Midshipman.

Ship HASHEMY, from Madras to England.
(Communicated by Messrs. Heath and Palmer.)

Time.	Course.	Wind.	
			Friday, April 12th,
			Noon. Lat. 43.4 Long. 19.25
			Saturday, April 13th.
am.	EbN	NW	am. Moderate breeze & fine, smooth water. 4. Do. weather.
7.		Vble toWd.	7. Variable winds at Westward. 8. Moderate breeze & fine.
10		Vble to S	Noon. Light variable winds at Southward & Westward and
			fine. Lat. Obsd. 44.36 Long. 17.00 pm. Increasing breeze
pm.		SW	and cloudy. 8. Strong breeze, squally with rain. Midnt.
6		S	Do. weather.
			Sunday, April 14th.
am.		SW	am. Fresh breeze, cloudy with rain. Daylight. Fresh breeze
7		WSW	and hazy. Noon. Strong breeze, cloudy. Lat. Obsd. 46.12
11		WbyS	Long. 14.00 pm. Strong breeze; heavy sea. Ship shipping
pm.		SWbW	much water. 6. Do. weather; very heavy sea, ship
			rolling heavily and shipping water. Midt. Strong breeze;
			heavy sea; hard squalls with rain.
			Monday, April 15th.
am.		W	am. Strong breeze, hard squalls and rain; heavy sea, ship
			rolling much, and shipping much water. 8. Do. weather,
			with rain. Noon. More moderate and less sea. Lat. Obsd.
			47.27 Long. 10.31

Ship WILLIAM MONEY, J. M. Buckley, Commander.
Mauritius to London.
(Communicated by F. W. Green, Esq.)

Time.	Course.	Wind.	
			Friday, April 12th.
Noon.	EbN		Noon. Lat. about 45,00 Long. 21,00
			Saturday, April 13th.
9am.		SW	am. Fine pleasant weather ; ship under topgallant sails and
			port studsails. Noon. Decreasing breeze and clear weather.
			Lat. 46,51 Long. 18,20 pm. Moderate breezes and clear
pm.		WSW	weather ; set all starboard studsails. 4 pm, In all studsails.
5		S	6. Increasing breeze and gloomy weather ; single reefed the
			topsails, and stowed main royal and jibs and topgallant sail.
			8. Increasing heavy squalls ; handed the courses, and treble-
			reefed the topsails. 11. Handed the fore and mizen topsails
			and close reefed the main topsail.
			Sunday, April 14th.
am.	SE	SSW	1 am. Set main trysail. Daylight. Excessive heavy squalls
2.	Up S		with rain. 8. Squared the yards, and set the reefed foresail,
	Off SE		treble-reefed fore topsail & close reefed mizen topsail. Noon.
5.		WSW	Do. weather. Lat. 47,46 Long. 16,25 pm. Brisk gales and
9.	E		cloudy weather. 10 pm. Excessive heavy squalls attended
9pm.	ESE		with rain and hail at intervals. Midnight. Do. weather.
			Monday, April 15th.
			am. Moderate. 4. Decreasing gale and clear. 8. Fine and
			pleasant weather. Noon. Increasing gales. Lat. 48,20
			Long. 12,34.

London and New York Liner SOUTHAMPTON, E. E. Morgan, Commander.
London to New York.

Time.	Course.	Wind.	
			Saturday, April 13th.
8am.	N	WNW	Noon. Moderate breeze and rough sea, ship under double-
pm.	NW	SW	reefed topsails. Lat. Obsd. 49.48 Long. 18.20 pm. Mode-
4pm.	NWbW		rate SWly winds, made all sail. 8 pm. Wind SE having
8pm.		SE	hauled from W and increasing ; commenced shortening sail.
			Sunday, April 14th.
4am.	NW		At 2 am. had the ship under close reefed fore & main topsail
			and reefed foresail, at this time blowing very heavily from
7		Calm	SE. From 7 to 10 am. Calm, with very heavy sea, ship la-
8.	NNW		bouring hard and rolling and tumbling about excessively.
10.	WSW	NNW	10 am. Wind hauled to NNW and blowing very heavily.
11.	SSW		Wore ship to WSW. Noon. Heavy cross sea, ship rolling
			pitching and straining. No observation. Lat. by Acct. 50.10
			Long. 21.00

Brig BRILLIANT, at Madeira.
(Communicated by Capt. J. B. Caldbeck.)

13th,	SW to NW.	Light airs and cloudy.
14th,	South. W. NW.	Light airs and fine.
15th,	South.	Light airs and fine.

Abstract of the ISABELLA BLYTH's Journal, T. B. Hale, Commander.

London to Mauritius.

(Communicated by Messrs. H. D. and Jas. Blyth and Greene.)

	Wind.	Lat.	Long.	Bar.	A Th.	W	
13th,	SW	38,12	10,37	30,25	61	58	Light westerly winds.
14th,	Wly	37,11	11,08	30,25	64	62	Light westerly airs.
15th,	Wly	35,44	11,41	30,10	64	64	Light variable westerly airs.

Penin. and Orient. Co. S. S. JUPITER, fromSouthampton to Gibraltar.

Francis Meehan, Commander.

Time.	Course.		Wind.	Bar.	Th.	
						Saturday, April 13th.
Noon.				30.05	63	Noon. Off Vigo. Strong breeze & cloudy weather
3.			WSW			At 40 minutes pm. *landed Oporto Mails in con-*
4.				.05	66	*sequence of unsettled state of weather.* 4.45
						Weighed and proceeded, thick hazy weather. 6.
8.	SWbS	7.	SWly	.06	64	Passed Boeiro Islet, thick heavy rain. 8. Strong
Midt.		7.		.06	64	breeze and thick weather. Midnt. Strong breeze
						and hazy weather.
						Sunday, April 14th.
1.		7.	SWbS			am. Moderate breeze and hazy weather. 4. Do.
4.	SSW	7.		.05	64	weather. 8. Moderate breeze and cloudy. Noon.
8.		7.4		.05	65	Do. Lat. 40.00 Long. 9.20 Berling's S 14 W 36
Noon.		7.4		.05	66	miles. pm. Moderate breeze and fine clear wea-
4.		8.		.05	67	ther. 8. Moderate and cloudy. 11. Rounded St.
8.		8.		.05	66	Julian. 11.30 Stopped abreast of St. Jerome
Midt.		8.		.05	69	convent, and cast anchor. Midnt. Do. weather.

Bark SULTANA, D. Mainland, Commander.

London to Port Adelaide.

Time.	Course.	Wind	
			Saturday, April 13th.
2pm.	SW	WNW	Lat. Obsd. 46.5 Long. 9.58
8	SSW	W	pm Light winds and fine.
10	W	SSW	Midnt. Fresh breeze and cloudy.
			Sunday, April 14th.
6am.	NWbW	SW	4 am. Wind increasing. 5. Strong wind and rain. Noon.
		bW	Strong wind and dense atmosphere. Lat. DR. 45.33 Long.
10	NW	WSW	Acct. 11.32 pm. Strong breeze, hazy, heavy sea. 8. Strong
			gale.
			Monday, April 15th.
			Noon. [Position about Lat, 46.00 Long. 12.00]

Pen. and Or. S N Co S S MONTROSE, J. Bowen, Commander.

Vigo to Southampton.

Time.	Course.	Wind.	Bar.	Th.	
					Saturday, April 13th.
6.	9.		29.98	57	Noon. Lat. 45,41 Long. Acct. 8,00 Ushant N
8.	9.	NNW	30.00	56	35½ E 205 miles.

(Log of Montrose continued.)

Time.	Course.	Wind.	Bar.	Th.	
9.	NE½E 9.	NWbN			6. Light breezes & fine. 7. Light variable winds.
Mid.	8.4		29.98	54	8. Moderate and fine. Midnt. Do. weather.
					Sunday, April 14th.
					am. Light airs and fine. 2. Light variable airs &
4.	8.4		.90	54	cloudy. 4. Light variable airs and fine. 7. Light
6.	8,4	SEly	.82	54	breeze from the Southward, set trysails and jib.
8.	ENE 8.4		.82	55	8. Moderate and cloudy, with light rain. 10.20
11.	NEbE 8.4	Sly			Saw the West end of Ushant bearing NEbyE ; at
					11.5 Ushant Light-house ESE 7 miles ; increas-
Noon.	NE8,4	SWbS	.75	52	ing breeze, made all sail. Noon. Fresh breeze &
1.	NbE 9,4	S			thick hazy weather, with drizzling rain. pm. Fresh
2.	9.4	SSE			breeze and thick dirty weather. 4. Strong breezes
4.	9.1		.50	59	with heavy rain ; in square sail. 6. Increasing
					wind and thick dirty weather ; in jib and trysails
8.	NbE 9.4	SSE	.50	57	and reefed fore topsail. 8. Strong winds & hazy.
					9.45 Saw the Start Light on Port Bow. 10.30
					Start NNE 11.15 Start Light North 6 miles.
Mid.	E½S 8.		.40	50	Midnt. Strong winds with heavy rain.
					Monday, April 15th.
1.		Sly			Strong winds, with thick hazy weather ; constant
4.	9.		.39	51	rain. 4. Same weather. 5. Sounded 30 fathoms ;
1.		Sly			Strong winds, and thick hazy weather ; constant
					Rocky bottom. 6. Strong winds and thick wea-
7.	NNE				ther ; sounded 30 fathoms, stood in for the land.
					7. Made Portland low Light bearing North distant
8.	E½S 8.4		.20	51	about 4 miles. 8.15 More clear, saw St. Alban's
					Head ; at 8.22 bearing NNE about 4 miles.
Noon.	Var 8.		.25	52	10.10 Passed Hurst Castle. Noon. Strong winds
					and cloudy. 1 pm. Strong winds and squally ;
					entered Southampton Docks.

Jeremy Collier Angove, Chief Officer.

London and New York Liner, WELLINGTON, Charles Chadwick, Commander

New York to London.

Sat.	April 13th.	Lat.	49,19	Long.	10,49
Sun.	14th.		—		—
Mon.	15th.		50,07		3,19

Contract St. Packet CAMBRIA, Liverpool to New York.

Time.	Course.	Wind.	
			Sunday, April 14th.
am.	SWbW	NW	am. Moderate and clear. Noon. Moderate breeze, dark
pm.		NNW	rainy weather. 1 pm. Ballycotton Island, N byE 3.40 Kin-
	WbS	SW	sale Head NW ½ N 3 miles. 5.30 Made all sail. 6. Moderate
	WbN	SSW	and hazy weather. Midnight. Strong breeze and dark rainy
			weather.
am.	WNW	SSW	am. Strong breeze and squally with rain. 6. Ditto with rain
		WSW	at times. 8. Do. weather. Noon. Strong gale and hazy.
		SW	Lat. 51,12 Long. 12,40 pm, Increasing gale and heavy

(Log of Cambria continued.)

Time.	Course.	Wind.	
			Monday, April 15th,
pm.		SW.W	sea, in topsail and jib, housed main topmast, down F. and
		W	F T Gt. yards, and housed F T Gt. mast. 6. Wind inclining
		NNW	to NW.
			Tuesday, April 16th.
			Noon. Lat. 50,40 Long. 15,30

R. M. Steamer COURIER, Jersey to Southampton.
Monday, April 15th.

SW am. Strong breezes and rain at intervals. 8.20 Started from Jersey. 10.20 Arrived at Guernsey. 10.45 Proceeded. Noon. Strong breezes & cloudy. 6.10 pm. Abreast of the Needles Rocks. 7,40 Arrived at Southampton. Midnt. Brisk gales and rain at intervals.

Tuesday, April 16th.

SW In Southampton Dock. Do. weather all this day. Noon. Strong gales. 8 pm. More moderate.

The continuation of this Storm will be found in the Light House Tables at the conclusion of Storm K.

§ XIII.

Storm *I.*

Abstract from Log of Brig VELOCITY, Capt. Holmes.
From Oporto to Philadelphia.
(Communicated by Messrs. Newman and Hunt.)

Date	AM.	PM.		Lat.	Long.	Remarks.
Thu. 11th,	SSW	SSE	Fresh			a.m. Moderate. p.m. Strong wind. At 10 came to off Chester
Fri. 12th,	N	Calm	Light airs			a.m. Calm, 2 p.m. Came to at Philadelphia
Sat 13th,	WNW	WNW	Fine			Fine day.

London and New York Liner NORTHUMBERLAND, J. M. Lord, Commander.
London to New York.

	Course.	Wind.	Bar.	Th.	
					Thursday, April 11th.
Noon.	WbN	NNE	29,90	49	Noon. Lat. 40,10 Long. 65,39 pm. Light breeze
pm.		E			and fine weather, all possible sail set.
					Friday, April 12th.
					am. Do. weather all this forenoon. Noon. Lat.
Noon.			30,00	47	Obsd. 40,06 Long, Chr. 68,00 Bar. standing at 30,00 Light breeze and fine weather; all sail set
pm.	WNW	EbE			pm. Do,
					Saturday, April 13th.
am.	WbN	ESE			am. Do. weather. Noon. Fresh breeze and clear
Noon.			29,15	55	weather. Lat. 40.15 Long. 71,00 Bar. falling.

R. M. W. I. St. Packet Co.'s S. CLYDE. At Bermuda.

Time.	Wind.	Bar.	
			Friday, April 12th.
2 am.	W		Fresh, passing squalls.
4		29,79	— —
6			— —

(Log of Clyde continued.)

Time.	Wind,	Bar.		
8	WbyN	,74	Moderate.	Cloudy.
10	W	,75	—	—
Noon.		,77	Light.	Cloudy.
2.	W	,95	Mod	—
4.		,94	—	—
6.	SW	,78	Light.	—
8.	Vble.	,75	7. Heavy rain. 8. Light airs and constant rain.	
10.		,75	Fresh and cloudy.	
Midt.		,75	—	—

R. M. W. St. P. Co. St. Ship AVON. Bermuda to Southampton.

Time.	Course.	Wind.	Bar.	
				Thursday, April 11th.
				Noon. Lat. by Acct. 38.48 Long. by Acct. 51.5
				Friday, April 12th.
4am.	7,6	Vble to	29,78	am. Moderate breezes. Do. weather all this fore-
6.		ENE	,77	noon. Noon. Lat. by Acct. 40.24 By Obsd.
Noon.	7,6		,75	40.04 Long. by Acct. 47.20 By Chron. 46.57
1pm.	EbN 7,6	E		pm. Light breezes & cloudy. Bar. falling steadily.
2.	7,6		,70	6 pm. Increasing breezes with rain. Midt. Mode-
Midt.	7,4		,61	rate breeze and thick rainy weather.
				Saturday, April 13th.
2am.	8,2		,60	am. Light variable winds and thick rainy weather.
4.	8,2	NNE	,60	4 am. Moderate breeze and cloudy. Set fore and
6.	8,4		,65	aft sails. 6. Constant rain. Bar. rising steadily.
8.	8,4	N	,66	8. Increasing breeze, set square foresail & topsail.
10.	10,	Vble	,67	10. Set topgallant sail. Noon. Strong breeze and
Noon.	10,	NNW	,68	squally with rain. No observation. Lat. 41,20
				Long. 42.57 pm. Increasing to a fresh gale with
				sharp squalls. 2. Do. weather with rain. 4. Hard
8pm.	10,		,79	squalls attended with hail showers. 8. Strong
				gales with frequent squalls, attended with hail
Midt.	10,		,79	showers 10. Do. weather. Midnt. Do. weather.
				[NB. Although the weather grew worse, the wind
				remained steady, & the Bar. continue to rise. Ed.]
				Sunday, April 14th.
6am.	8,6		,86	am. Fresh gales and squally with hail showers.
8.	8.4		,90	Bar. rising slowly. 8. More moderate with pass-
Noon.	8,		,95	ing heavy clouds. 10. Do. weather. Noon. Strong
				breeze and squally at times. Lat. Obsd. 42.32
1pm.	8,6	N		Long. by Acct. 38.15 By Chron, 38.28 pm. De-
				creasing breeze with passing squalls & Bar. rising.
10.	8,6	NNE	30,00	Midt. Light variable wind and cloudy.
				Monday, April 15th.
				am. Light breezes. 1.30 In all sail. Till Noon,
4am.	8,4	SE	30,00	Bar. falling slowly and steadily, and breeze fresh-
				ening. At Noon. Lat. by Acct. and Obs. 43.52
				Long. by Chron. 33.59 By Acct. 34.02.

Charles Gordon, Chief Officer.

Barque WESTMINSTER, Forbes Michie, Commander.
Bombay towards London.
(Communicated by Messrs. D. Dunbar and Sons.)

	Noon.				Wind.			
	April.	Lat.	Long.	Bar.	AM.	Noon.	PM.	
Wed.	10th,	27,33	40,18	30,35	ESE	SE	SSE S	Light, and fine weather.
Thur.	11th,	28.53	39, 6	30,30	S SW	WSW	SW	Steady breeze, fine weather.
Frid.	12th,	30,21	37,40	30,30	WSW	SW	SW W	Do. do.
Sat.	13th,	32,10	35,52	30,32	SW W	WSW		Steady breeze and hazy.

H. Chatfield, Chief Officer.

Abstract from the Log of the CHANTICLEER, from Bahia to London.
(Communicated by Messrs. Newman and Hunt.)

Date.	Wind.		Weather.	Lat.	Long.
Friday, 12th,	NNW	S & W	Showery.	36,29	36,35
Saturday, 13th.	WNW	W	Showery.	39,01	34,39
Sunday, 14th.	NW	WNW	Squally.	41,36	31,39
Monday, 15th.	WNW	Vble.	Fair. Heavy Northerly sea.	42,55	28,58

Contract Steam Packet AMERICA, Liverpool to Halifax.
(Communicated by their Lordships the Commissioners of the Admiralty.)

Time.	Wind.	
		Sunday, April 14th.
pm.	SSW	Noon. Lat. 47,24 Long. Chron. 42,15 pm. Fresh breezes and squally. 4. Do. weather. 8. Fresh breezes and cloudy weather. Midnight, Moderate and cloudy.
		Monday, April 15th.
am.	S	am Moderate breezes and cloudy weather. 4. Do. weather. 8 Thick hazy weather with rain. Noon. Fresh breezes and cloudy
Noon.	NW	weather. Lat. 46,42 Long. DR. 47,55. Passed a large Iceberg on port side 5 miles distant. pm. Fresh breeze and clear weather. 4. Do. Passed a large Iceberg 1 mile distant. 8. Moderate breezes and clear. Midnight. Squally with heavy hail storms.
		Tuesday, April 16th.
		Noon. Lat. 45,45 Long. DR 52,17

Abstract Log of Schooner ROLLO, from Jersey to Newfoundland.
[Reduced from Nautical to Civil Time. Ed.]
(Communicated by C. Lequesne, Esq.)

Time.	Lat.	Long.	Wind.	Weather.
13th,	47,45	34,42	NW	Hard gale with heavy squalls & heavy sea.
14th,	46,27	35,57	NWbyW	Moderate gale, but squally with rain.
15th,	45,43	37,41	NtoSSW	Fresh gale and squally with heavy head sea.

Brig DOLPHIN, Jersey to Newfoundland.
(Communicated by C. Lequesne, Esq.)

Time.	Course.	Wind.	Bar.	Ther.	
					Saturday, April 13th.
Noon.	NNE	NW	29.50	56	Noon. Lat. 48.28 Long. 33.05 pm. Light winds
8pm.		Calm			with a heavy head sea. 8 pm. Calm. Midnight.
Midt.	N	WNW			Nearly calm, dark cloudy weather.

(Log of Dolphin continued.)

Time.	Course.	Wind.	Bar.	Th.	
					Sunday, April 14th.
8am.	WbyS	NNW			am. Do. weather. 6. Light winds, set the square
					mainsail, jibs and main trysail, let two reefs out
					of the topsails and set the topgallant sails. Noon.
Noon.			29,45	54	Increasing breeze and squally. Lat. Acct. 48,21
pm.	WbN	N			Long. Acct. 33,35. pm. Strong breeze & squally,
					with a cross sea, ship straining; handed topgallant
8.		NNW			sails, trysails. and jibs. 8 pm. Squally weather.
10.	WSW	. NW			double reefed the topsalls. 10 pm. Do. weather,
					handed the main course. Midnight. Do. weather,
					Monday, April 15th.
					4 am. Getting more moderate set the main course.
					8 am. Still more moderate. Noon. Moderate breeze
10.	SSW	W			and hazy weather, let out all reefs & set topgallant
Noon.	S	WSW	29,80	54	sails; tacked ship. Lat. Obs. 47,04 Long. 35,25

Schooner OCEAN, from Jersey to Newfoundland.
(Communicated by C. Lequesne, Esq.)

Time.	Course.	Wind.	
			Saturday, April 13th.
Noon.		SE	Noon. Lat. DR 44.49 Long. DR 27,48
Midt.		Calm	Midnt. Calm and cloudy.
			Sunday, April 14th.
0.15am.		SW	am. 0.15 Sprung up a breeze from the SW. 3 am. Heavy
2		SWbS	squalls with lightning; stowed the jib and square mainsail.
4	NNW	W	6 am. Heavy squalls and thick weather; handed the double-
6	NEbN	NW	reefed fore topsail, and main trysail. 8 am. Wore ship to
10	W	NNW	the Southward; set the main staysail. 10 am. Set the fore
Noon.	SW	NW	topsail, close-reefed it. Noon. Lat. Obsd. 44,34 DR 44,37
2pm.	bW	NWbN	Long. by Acct. 28.52 Heavy gales attended with heavy
10	W	NNW	squalls of hail. pm. Heavy gales and squally, attended with
12		N	heavy squalls of hail at intervals. Midnt. Fresh gales and
			squally, attended with hail.
			Monday, April 15th.
2am.	WNW		4 am. More moderate; set the main trysail and jib, and let
4	SW		two reefs out of the fore and main topsails. 6 am. Out all
6	WSW		reefs, and set the fore and main topgallant sails. 8 am. Set
10	N	NNW	the main-royal. 9 am. Tacked the ship to the Northward.
			Noon. Light winds and cloudy, with fair weather. Lat, Obs.
			43.58 DR 44.03 Long. Chr. 30.07 DR 29.35

R. M. West India Steam Packet SEVERN, Wm. Vincent, Master.
Southampton to the West Indies.

Time.	Course	K.F.	Wind.	Bar.	
					Sunday, April 14th.
Noon.		8.		29,80	Noon. Fresh breeze & hazy. NW end of Pico bear-
					ing WNW 6 miles.
pm,			WNW		pm. Moderate breeze and cloudy.
4.				,80	2,50 Anchored in Fayal Roads.

(Log of Severn continued.)

Time.	Course.	Wind.	Bar.	
8.		N	,80	6. Moderate breezes with passing showers.
Midnt.			,80	Midnt. Moderate breeze an d fine.
				Monday, April 15th.
				am. Moderate breeze and fine.
				2,50 Weighed and proceeded.
4.	WbS 9,		,94	Peak of Pico ESE. Centre of Fayal NE.
8.	7,4	Calm	,94	same weather.
10.	7,6	South		8. Light airs and fine. Long Westerly swell.
Noon.	7,6		,94	Noon. Peak of Pico bearing E¾N. Lat. 37,44 Long. 39,38.
8.	7.4	SWly	,95	pm. Fresh breeze and hazy with a Westerly swell,
				Tuesday, April 16th.
				Noon. Lat. 35,56 Long. 32,34

Wm. Vincent, Jr. Midshipman.

Brig BRILLIANT, at Madeira.
(Communicated by Capt. J. B. Caldbeck.)

13th, SW to NW. Light airs and cloudy.

14th, South. W. NW. Light airs and fine.

15th, South. Light airs and fine. 6 pm. Light SE breezes & cloudy; made all sail out of Funchal Bay. 8 pm. Light Southerly airs and cloudy. Midnt. Do. weather and N Easterly.

16th, am. Fresh winds and cloudy. 8 am. North Desertas bearing SW, distant 9 miles. pm. Moderate breezes NEbyN & cloudy. Midnight. Light winds EbyN and clear.

17th, am. Light winds ENE and clear. 8 am. Steady winds and cloudy. Noon. Lat. Obsd. 33,16 Long. 16,00 pm. Moderate winds EbN and clear weather. Midnight. Do. weather NE.

18th, 4 am. Steady ENE winds & clear. Noon. Lat. 34,21 Long. 14.00

Penin. and Orient. Co.S. S. JUPITER, Francis Meehan, Commander.
Lisbon to Gibraltar.

Time.	Course.	Wind.	Bar.	Th.	
					Monday, April 15th.
1.		SW			am. Moderate breeze and cloudy. 4.40 Weighed and set on. 6.5 Stopped off Black Horse Square. Noon. Strong breeze and dark threatening appearance. 1.17 Slipped from the buoy and set on. 3. Passed St. Julian. 4. Fresh and squally weather. 8. Squally at times, with rain. 9. Moderate breeze and clear weather. Midt. Do. weather.
Noon.		SWbS	29,70	59	
4.	8.		,80	61	
7.	8.	W			
8.	8.		,80	64	
11.	8.	WNW			
Midt.			,90	67	
					Tuesday, April 16th.
1.		W			am. Moderate breeze and clear weather. 4. Moderate and fine. 8. Moderate breeze and clear pleasant weather. Noon. Light airs and pleasant weather. Cadiz distant 40 miles. Lat. Obs. and Acct. 36,43 Long. Acct. 7,18 pm. Do. weather. 6,50 Anchored in Cadiz Bay. Midnight. Calm and clear weather.
4.		NE	,92	64	
8.		Vble.	,96	65	
Noon.			30,00	67	
4.		W	30,00	73	
Midt.		Calm	,02		

(Log of Jupiter continued.)

Time.	Course.	Wind.	Bar.	Th.	
					Wednesday, April 17th.
4.		Calm	,09	70	am. Calm & pleasant weather. 4. Light airs and
8.		NEly	,16	71	clear. 8. Moderate and clear. 9.15 Weighed and
Noon.	SSE	NNE	,16	74	set on for Gibraltar. Noon. Light breeze and
					pleasant weather. Conil EbN 6 or 7 miles. 2pm.
4			,20	74	Light airs and calm. 5.20 Anchored at Gibraltar.
					Midnight. Calm and clear.
					Thursday, April 18th.
am.		Vble			am. Moderate, variable breeze and clear weather.
Noon.			,20	76	4. Light airs. Noon. Calm and clear.

Daniel G. Munro, First Officer.

Bark FRANCES WALKER, D. F. Hay, Commander.

Calcutta to London.

Time.	Course.	Wind.	Bar.	
				Saturday, April 13th.
Noon,			29,70	Lat. 44,40 Long. 23,40.
				Sunday, April 14th.
am.	SWbS	NW		2 am. Ship still lying to. More moderate, and
				falling sea. 4. Fresh gale and high sea, ship la-
				bouring heavily. 5. Increasing gale and sea, ship-
7.	S			ping heavy seas on board. 8. Hard gales, squalls
9.	SSW	Vble toWly		and rain. 9. Increasing gales and violent squalls,
				10. Tremendous heavy gale & very violent squalls,
Noon.			29,45	and very heavy sea : shipped a heavy sea. Noon.
				Blowing a perfect hurricane, ship's side constantly
				pressed into the sea. Lat. 44.35 Long. 24.41
				[Noon. A perfect hurricane from the Westward,
				with a tremendous sea running ; shipped a very
				heavy sea. I think this is the heaviest gale I was
				ever in in my life. Midt. More moderate. D.F.H]
pm.	SWbS	Vble Wly		pm. Very heavy gale and violent squalls, and tre-
3.	SWbW	Vble Nly		mendous heavy sea ; ship labouring very heavily,
5	WSW			and straining much. 4. Do. weather. 6. More
7.	SWbW			moderate. 8. Heavy gales & violent squalls. 9. Do.
9.	WSW			with showers of rain and hail. Midnight. Heavy
				gales and squalls with hail, and a very heavy sea.
				Monday, April 15th.
5am.	W	NNW		am. Do. weather. 8. More moderate. Noon. Hard
11.	NEbN			gales, and squalls, and high sea, ship labouring
Noon.			30,05	heavily & shipping much water. Lat 44,28 Long.
				23,27. pm. Strong gales, hard squalls & high sea,
				ship labouring heavily. 4. More moderate but
7pm.	EbN			squally with rain. 6. More moderate. 8. Moderate
10.		Vble Wly		breeze and very high sea. Midnight. Do. weather
Midt.		NW		but clear, very high sea.
				Tuesday, April 16th.
4am.		WNW		am. Moderate winds, high sea. 2. Wind variable
7.		WSW		Westerly. 4. Moderate breeze and heavy cross
10.		SW		sea. 6. Increasing breeze, drizzling rain. 9. In-

(Log of Frances Walker continued.)

Time.	Course.	Wind.	Bar.	
Noon.		WSW	29,86	creasing wind, squally and rain. Noon. Strong gale and squally with constant rain and a high sea Lat. 45,8 Long. 21,31· Course N59E 88 miles.
4pm.		W		Do. weather shipping great quantities of water. 4. More moderate, hazy. 8, Moderate breeze, hazy. Midnight. Do. do. [NB. As soon as the Frances Walker bore up & followed the Storm the weather began to grow worse, and the Barometer fell again. Ed.]
				Wednesday, April 17th.
				am. Moderate breeze and hazy. Noon. Do. with a
Noon.			30,02	heavy swell. Lat. 46,16 Long. 19,17 Course
5pm.		WSW		N57E 112 miles. pm. Moderate breeze and hazy
Midt.		W		with flying clouds. Midnight. Moderate winds.
				Thursday, April 18th.
				am. Moderate winds & cloudy. Noon. Lat. 47,10
Noon.			30,15	Long. 16,34. Course N6E 130 miles.

London and New York Liner MARGARET EVANS, E. G. Tinker, Commander.
From New York to London.

April	Lat.	Long.	Bar.	Th.	A.M.	Noon.	P.M.	Weather.
13th,	46,50	28,00	29,70	56	W	SSW	NE	Light. Light & cloudy, & rain. Strong.
14th,	47,00	26,30	29,30	54	NE	NE	NNW	Fresh and squally. Strong & squally.
15th,	47,57	19,55	29,40	54	NNW	NWbN	NW	Strong wind & squally. Heavy gale; lost boat and bulwarks.
16th,	48, 7	14,12	29,40	52	WNW	WNW	W	Strong, and heavy sea. Mod. light and rain.
17th,	48,45	10,13	29,50	54	W	NW	NW	Light & misty. Light & fine
18th,	49,16	7,10	30,00	55	SW	SW	SW	Light breeze. Light.
19th,	50,16	2,	30,00	50				

London and New York Liner SOUTHAMPTON, E. E. Morgan, Commander.
London to New York.

Time.	Course.	Wind.	
			Sunday, April 14th.
11	SSW	NNW	Wore ship to WSW. Noon. Heavy cross sea, ship rolling pitching and straining. No observation. Lat. by Acct. 50.10 Long. 21.00 pm. Throughout this day blowing a heavy gale from NNW with a very heavy sea, ship labouring hard, and occasionally shipping a considerable quantity of water.
			Monday, April 15th.
am.	SSW	NNW	am. Do. weather. 2 am. Split fore topsail. Noon. Lat. 49.10 Long. 20.55 pm. Heavy gales and very heavy sea.
			Tuesday, April 16th.
4am.	SW	NW	3 am. Moderated. 4 am. Made sail; the remainder of this day
9	SW	WNW	wind moderating made sail accordingly. Noon. Moderate
11	NNW	W	Wly. winds, ship under single reefed top sail & top gallant

(Log of Southampton continued.)

Time.	Course.	Wind.	
8	NbyE		sails. Noon. Lat. Obsd. 48.04 Long. 20·53 pm. Rainy
10	WNW		weather and Westerly winds. Midnight. Pleasant weather.
			Wednesday, April 17th.
2am.	SW		am. Pleasant weather. Noon. Lat. Obsd. 48.27 Long. 23.38
7	NW		pm. Pleasant weather.
1pm.		WSW	Thursday, April 18th.
			Lat. 49.27 Long. 25.16

Bark SULTANA, D. Mainland, Commander.
London to Port Adelaide.

Time.	Course.	Wind.	
			Saturday, April 14th.
pm.	NW	WSW	Noon. Lat. DR. 45,33 Long. Acct. 11,32. pm. Strong
10	NWbW		breeze and hazy; heavy sea. 8. Strong gales. 10. Gale
			increasing, ship lying to. [on port tack, off her course. Ed.]
Midt.		SWbW	Midnight. Hard gales, violent squalls and rain.
			Monday, April 15th.
10		WNW	am. Hard gale, violent squalls. 8. Strong gales. Noon.
			Hard gales, clear. No Lat. or Long. pm. Strong gales, very
Midt.		NWbW	heavy sea, ship lying to. Midt. Hard gales, violent squalls.
			Tuesday, April 16th.
			am. Hard gales, violent squalls. Noon. Do. weather. Lat.
8 pm.	SSW	W	Obsd. 45,53 Long. 10,40. pm. Strong gales, squally. 5.
Mid.	WNW	SW	More moderate. 10. Wind increasing. Midnight. Fresh
			gales, rain.
			Wednesday, April 17th.
am.	NW	WSW	am. Fresh gales, rain. Sunrise. Clearing off, less wind.
8		W	Noon. Lat. Obs. 45,49 Long. 10,3. pm. Light breeze,
pm.	SWbS		hazy; damp atmosphere. Midnight. Calm, thick with
10		Calm	small rain.
			Thursday, April 18th.
4		W	am. Calm and thick. 4. Light winds, hazy. 8. Do. clear.
			Noon. No Lat. or Long. [Position about 45,50N. 10,40W

Ship HASHEMY, from Madras to England.
(Communicated by Messrs. Heath and Palmer.)

Time.	Course.	Wind.	
			Monday, April 15th.
Noon.	E½N	W	Noon. Wind more moderate. Lat. Obs. 47.27 Long. 10.31
			pm. Breeze increasing & hard squalls & sea getting up again.
			4. Strong breeze, high sea. 8. Fresh increasing breeze;
			cloudy with rain. Midnight. Fresh gales with rain; heavy
			sea on, ship rolling heavily and shipping green seas fore and
			aft.
			Tuesday, April 16th.
			am. Fresh gales, hard squalls and rain. 4. Do. weather. 8.
10am.		WbN	A fresh breeze with hard squalls; very heavy sea on; ship
pm.		WSW	rolling much and shipping great quantities of water. Noon.
			Do. weather. Lat. 48,54 Long. 6,47 pm. Strong breeze.

(Log of Hashemy continued.)

Time. Course. Wind.
cloudy, & less sea. 4. Strong breeze and squally, with rain,
Midnight. Decreasing breeze; rainy.
Wednesday, April 17th.
am. Fresh breeze, squally with rain. Daylight. Moderate
11am. WbS breeze, cloudy with rain. Noon. Light wind and fine. Lat.
pm. WbN Obsd. 50,10 Long. 3,14 pm. Moderate, steady breeze and
fine. 4. Do. with rain. Midnight. Moderate breeze and
cloudy. St. Catherines' Light in sight.
Thursday, April 18th.
Noon. Beachy Head East 20 miles.

Ship WILLIAM MONEY, J. M. Buckley, Commander.
Mauritius to London.
(Communicated by F. W. Green, Esq.)

Time. Course. Wind.
Sunday, April 14th.
Noon. Lat. 47,46 Long. 16,25
Monday, April 15th.
am. ESE WSW am. Decreasing gale and clear. 8. Fine pleasant weather.
Noon. Increasing gales with showers at intervals. Lat. 48,20
Long. 12,34. pm. Brisk gales and squally, attended with
rain & hail, ship labouring very heavily, shipping heavy seas
6.30pm. Up over all; decks full of water. 6.30 Handed the fore course
Off. and hove to under close reefed main topsail & main trysail.
Tuesday, April 16th.
am. Do. weather. 4. Heavy gales and much rain. 8. Do.
9am. ESE WNW weather. 9. Wore away and shook one reef out of main topsail; heavy sea running, and ship labouring very heavily
and shipping a great quantity of water. Lat. 48.34. Long.
9,54. pm. Heavy gales and long seas striking ship with
great violence and taking in over all. 2.30 Shipped a heavy
sea and washed away part of the cuddy. 3.30 Set close-reefed fore and mizen topsails. 4. Heavy gales. 8. Do,
weather. Midnight. Moderating.
Wednesday, April 17th.
am. Do. weather. 4. Gale moderating; heavy sea still
running, ship labouring, and making bad weather. 8. Moderating wind and sea; out 3rd reef of the topsails. Noon.
pm. EbS Pleasant weather [Distance run 112 knots ESE.] pm.
Gale moderating with thick cloudy weather inclining to rain.
4.30 Set the mainsail, jib, and mizen. 7.30 Shook the reefs
out of the topsails and set the mainsail. Midnight. Fine
pleasant weather; set main royal and flying jib.
Thursday, April 18th.
am. Do. wind and weather. 4. Out all reefs, and set all port
studding sails. 6.30 Lizard Light bearing NbW distant 15
miles. 10. Fine pleasant weather and decreasing breeze.
Noon. Do. weather. Distance run 150 knots EbS. pm.
Moderate breeze and cloudy weather. 5.30 Start Point
NEbE distant 5 leagues.

Contract St. Packet CAMBRIA. Liverpool to New York.

(Communicated by their Lordships the Commissioners of the Admiralty.)

Time.	Course.	Wind.	
			Monday, April 15th.
Noon.	WNW	SW	Noon. Lat, 51,12 Long, 12,40 pm. Increasing gale and
pm.		SWbW	heavy sea. In fore-topsail and jib, housed main-topmast,
			down F. & F. T. Gt. yards, and housed F. T. Gt. mast. 6.
			Wind inclining to NW. 8. Strong gale & squally with heavy
		W	sea. Midnight. Heavy squalls.
			Tuesday, April 16th.
4am.		NNW	am. Strong gale with heavy squalls, and a heavy sea from
		NW	NW. 4am. Revs. 8. 6. Squally with rain. Noon. Strong
pm.		NW	gale and squally with a heavy sea. Lat. 50,40 Long. 15,30
		WNW	pm. Strong breeze and cloudy weather. Revs. 9. 4. Less
			wind and sea. Revs. 10. 8. Moderate and cloudy weather.
		WSW	Revs. 11. Midnight. Light breeze with rain.
			Wednesday, April 17th.
am.		SW	Light breezes from SW and drizzling rain. Revs. 12. 4.
4		NW	Wind shifted to NW with clear weather. 8. Light breezes
			and fine clear weather. Noon. Lat. 50,02 Long. 20,19

Contract Steam Packet NIAGARA, Capt. Alex. Ryrie.

Halifax to Liverpool.

(Communicated by their Lordships the Commissioners of the Admiralty.)

Time.	Wind.	
		Sunday, April 14th.
pm.	SSW	Noon. Lat. 51.16 Long. 13 17 pm. Fresh SSW breezes and
8.	E	cloudy weather. 4. Do weather. 8. Wind Easterly. Midnt
		Fresh breezes and squally.
		Monday, April 15th.
am.	S	am. Wind Southerly and squally, with rain. 1.30 Passed Cape
		Clear. 8. Moderate breezes and fine weather.

Abstract of Log of West India Royal Mail Steam Packet Co.'s Ship DEE.

William Allan, Esq. Commander.

Southampton to West Indies.

Time.	Wind.	Bar.	Weather.	Lat. Acct.	Obs.	Long. Acct.	Chr.
			Wednesday, April 17th.				
2 pm.			Left Southampton Docks.				
			Thursday, April 18th.				
am.	WNW	29,70	Moderate.				
	NW	,80					
Noon.	Wly	,84		49,39	49,38	3,47	3,49
pm.	WSW	,94	Light.				
	—	,96					
	SW	,96	Freshening.				
			Friday, April 19th.				
				48.17	None.	6.13	None.

W. Strutt, Chief Officer.

Penin. and Orient. Co. S. S. IBERIA, Charles Fox Burney, Commander.

Southampton towards Vigo.

Time.	Course.	Wind.	Bar.	Th.	
					Wednesday, April 17th.
am.		WSW			In Southampton Dock. am. Fresh breezes and
8.		W	29,45	52	unsettled weather Noon. Squally from the Wd
Noon.			,50	56	with smart showers of rain. pm. Rain increasing
					2.10 Cast off from the Quay, and waited at the
					buoys, until the R. M. St. Dee had cleared the
4.			,55	56	Dock entrance. 2,40 Proceeded down the river.
8.		WNW	,66	56	5.10 Passed through the Needles Channel 6.
9.	W				Moderate breeze & cloudy. 8. Do. weather with
Midt.		NW	,70	55	short head sea. Midnight. Steady breezes & fine.
					Thursday. April 18th.
4am.			,80	55	am. Steady breezes and fine clear weather with a
8.		NWbW	,95	57	short head sea. Daylight. Hazy. 8. Light winds
10.		Vble.			and fine ; do. sea. 10. Wind variable to the Wd,
Noon.		WNW	30,04	61	in fore and aft sails. Noon. Light winds and fine
					with a NW swell. Lat. Obs. 49,10 Acct. 49,15
					Long. Acct. 4,27 Chr. 4,21 pm. Moderate breezes
1pm.		W			and hazy weather. 1pm. Passed a steamer hull
4.			,03	58	down to windward steering up Channel. 4. Do.
					weather with NW swell. 6,30 Light winds and
					hazy ; saw the NE end of Ushant S¾E, distant
8.		WSW	,07	57	about 4 leagues, light obscured by the haze. 8.
Midt.			,10	58	Light winds & hazy with a Westerly swell. Midt.
					Moderate breezes and thick hazy weather.
					Friday, April 19th.
					Noon. Lat. Obs. 47,7 Acct. 47,5 Long. Acct. 7,9

Edward Christian, First Officer.

R. M. Steamer COURIER, Southampton to Jersey.

Wednesday, April 17th.

SW Strong breezes all this day.
WNW 11.55 pm. Started from Southampton, moderate and fine weather.

Thursday, April 18th.

1.50 am. Abreast of the Needles. 6. Caskets bearing SW by S distant 12 miles. 6.50 Abreast of the Caskets. 8.15 Arrived at Guernsey. 10.50 Arrived at Jersey. Noon. Fresh breezes and cloudy.

Log of the COLDSTREAM, from London to the East Indies.

(Communicated by Messrs. R. & H. Green.)

Monday, April 15th.

am.	Moderate Southerly wind & cloudy.
2	Passed St. Catherine's light.
3	Increasing breeze, thick weather ; in topgallant sails.
Noon.	Strong Sly breeze & squally ; in second reef of fore and mizen topsails.
pm.	Increasing breeze and fine.
2	Increasing to a fresh gale with much sea on. Ship labouring much, shipping much water over all. Strong gale and thick weather.

(Log of Coldstream, continued.)

8 In second reef of main-topsail, and reefed the mainsail.

Midnight. Strong gale SW, thick weather.

Tuesday, April 16th.

am. Increasing SW gale, thick weather.

4 In fore and mizen topsails, and hove the ship to under double-reefed main topsail.

Noon. Strong gale and fine, with a heavy rain. Shipping much water over all. Bent main trysail and set it.

pm. Strong SW gale and fine, with a heavy sea running.

Midnight. Increasing gale and cloudy.

Wednesday, April 17th.

am. Fresh gale and cloudy.

Daylight. Set close-reefed fore and mizen top sails. and bore up for Spithead.

9 Sighted the Isle of Wight.

Noon. Decreasing gale and fine.

2pm. Strong SWesterly winds and fine; Passed the Nab-light, and worked on towards the Motherbank.

4 Brought up in 6 fathoms.

Midnight, Strong breeze and fine.

Thursday, April 18th.

am. Fresh breeze Westward, and fine. Employed restowing cargo.

The continuation of this Storm will be found in the Light House Tables at the conclusion of Storm K.

§ XIV.

Storms *K.**—*K.*

NEW YORK.

April 13th. Southerly and Southeasterly Storm at New York. Wind changed to SW, and ceased raining at Noon. Barometer lowest 29,63 from Noon to 2 pm.

W, C. Redfield.

Abstract from Log of Brig VELOCITY, Capt. Holmes.

At Philadelphia.

(Communicated by Messrs. Newman and Hunt.)

Date	AM.	PM.	
Sun. 14th,	NW	NW	Strong wind
Mon, 15th,	WNW	WNW	Moderate
Tues. 16th,	NW	WNW	Fine

London and New York Liner NORTHUMBERLAND, J. M. Lord, Commander.

London to New York.

	Course.	Wind.	Bar.	Th.	
					Friday, April 12th.
Noon.	WNW	EbS	30,	47	Noon. Lat. Obs. 40.06 Long. Chr. 68.00 Bar, on the stand at 30,00 Light breeze and fine weather, all sail set. pm. Do. do 4 pm. Sounded, no bottom at 110 fathoms. Midnight. Sounded, found 55 fathoms, black and white sand.
					Saturday, April 13th
1am.	WbN	ESE			2 am. Sounded & found 45 fathoms, hard bottom, no soundings on the lead. 4 am. Found 48 fathoms do. weather. 8. Do. weather. Noon. Fresh breeze
Noon.			29,15	55	and clear weather. Lat. Obs. 40,15 Long. 71,00
1pm.		S			Barometer falling. pm. Hazy weather and strong breeze. Barometer falling fast, took in all light
3.		W			sails. 3 pm. Got a squall from the NW, hauled up the courses & double-reefed the topsails. 4 pm.

(Log of Northumberland continued.)

Time.	Course.	Wind.	Bar.	Th.	
9.	SSW				Took a pilot from boat No. 7. 9 pm. Tacked ship
					[on starboard tack Ed.] 11 pm. Called all hands
					and close-reefed the topsails and foresail, furled
					mainsail.
					Sunday, April 14th.
2am.		WNW			2 am. Blows a gale of wind from the WNW, and
					very bad sea, ship labouring heavily and shipping
6.	N				considerable water. 6 am. Wore ship, [to port
					tack Ed.] several small sail in sight. Noon. A
					gale and high sea, ship laying to under main try-
					sail and top sail. Lat. Obsd. 40,10 Long. 71,
Noon.			29,40	38	Barometer rising. pm. A gale of wind and heavy
1pm.	NbW	W			sea, 4 pm. Sent down the royal yards. 7 pm.
					Wore ship with Montauk light, bearing NbyE,
8.	SbW	WNW			distance 9 miles. Midnt. A little more moderate.
					Monday, April 15th.
9.	N				4 am. More moderate. 9 am. Tacked ship. Noon.
					Double-reefed topsails, set jib. Lat. 40,11 Obsd.
Noon.			29,80	40	Long. 71,52 Chr. Barometer rising. pm. Strong
7.	WSW	NW			gale and fine weather. 4 pm. Do. do. 7 pm.
					Tacked ship with Montauk light bearing NbyW
9.	W	NNW			8 miles distant. 10 pm. More moderate, made all
					sail to the breeze. Midnt. Sounded 21 fathoms,

R. M. W. I. St. Packet Co.'s S. CLYDE. At Bermuda.

Time.	Wind.	Bar.		
				Saturday, April 13th.
2.	WSW	29,75	Fresh.	Passing squalls.
4.		,75	—	Cloudy,
6.	WbS	,71	—	—
8.	WSW	,71	7. Passing showers. 8. Strong and cloudy.	
10.			9. Constant rain.	
Noon.		,77	Strong winds with heavy rain.	
2.	WSW	,72	pm. Fresh gales with constant heavy rain.	
4.		,70	Strong gales and cloudy with heavy squalls	
6.			Decreasing winds and cloudy.	
8.	WbS	,74	Moderate winds and cloudy,	
10.	WNW	,72	Light.	—
Midt.		,75	—	—
				Sunday, April 14th.
2.	WSW	,77	Moderate breeze. Lightning to SW.	
4.	Vble	,78	—	—
6.	NW	,74	Moderate breezes and fine.	
8.	NWbW	,74	—	—
10.	WSW	,75	—	—
Noon.		,80	—	—
2.		,85	—	—
4.		,83	Fresh.	—
6.	W	,83	—	Cloudy.
8.	WbS	,84	—	—

(Log of Clyde continued.)

Time.	Wind.	Bar.		
10.	Vble.	29,88	—	Fine.
Midt.	NWbW	,88	—	—

Monday. April 15th.

Time.	Wind.	Bar.		
2.	NW	,90	Strong breeze and fine.	
4.	NWbN	,90	Fresh.	—
6.			Moderate.	—
8.		,98	Fresh.	—
10.		30,08	—	—
Noon.		,08	Moderate.	—
2.	NW	,08	—	—
4.		,07	Steady.	—
6.		,07	Light.	—
8.		,04	-	—
10.		,02	Moderate.	—
Midt.		,04	—	—

Tuesday, April 16th.

Time.	Wind.	Bar.		
2.	NW	,04	Fresh.	—
4.		29,98	—	—
6.	WNW	,95	Moderate.	—
8.	N	,94	—	—
10.		,95	—	—
Noon.	NW	,97	Light.	—
2.		,97	—	—
4.		,98	—	—
6.		,98	Moderate,	—
8.		,97	—	—
10.		,97	Fresh.	—
Midt,		,97	—	-

Anthony Wilson, Chief Officer.

Contract Steam Packet AMERICA, Liverpool to Halifax.

(Communicated by their Lordships the Commissioners of the Admiralty.)

Monday, April 15th.

Time.	Wind.	
pm.	NW	Noon. Lat. 46,42 Long. DR. 47,55 8. Moderate breezes and clear. Midnt. Squally with heavy hail storms.

Tuesday, April 16th.

Time.	Wind.	
am.	SW	am. Strong breezes and squally weather. 4. Do. breezes and heavy snow storms. 8. Moderate gales with thick weather. 11,45. Fell in with a large field of Ice, extending NbyW and
Noon.	WbS	SbyE as far as the eye could reach. Noon. Heavy gales & thick weather, hauled to S. [i.e. on Starboard tack,] steering along the edge of the Ice for an hour & a half. Lat. 45,45 Long DR 52,17
pm.	WNW	pm. Having cleared the Ice shaped our course NW by W¾W. 4. Strong gales with a heavy sea. 8. Moderate & cloudy with snow. Midnight. Light winds and cloudy weather.

Wednesday, April 17th.

Time.	Wind.	
am.	WNW	am. Moderate breezes and fine weather. 4. Do. weather. 8. Mod.

(Log of America continued.)

Time.	Wind.	
Noon.	NW	& clear. Noon. Hazy. Lat. 45,30 Long. Chr. 56,8 pm. Fresh breezes and cloudy. 4. Cloudy. 8. Moderate and cloudy. Midt. Moderate and fine weather.
		Thursday, April 18th.
am.	N	am. Moderate breezes and fine. Noon. Lat. 44.30 Long. 60,30 11,35 pm. Arrived at Halifax.

Henry Beddek, Admiralty Agent.

Abstract Log of Schooner ROLLO, from Jersey to Newfoundland.

[Reduced from Nautical to Civil Time. Ed.]

(Communicated by C. Lequesne, Esq.)

Time.	Lat.	Long.	Wind.	Weather.
15th,	45,43	37,41	NtoSSW	Fresh gale and squally with heavy head sea.
16th,	46,25	39,59	WbyS	Fresh gale with hard squalls, do.
17th,	46,41	41,19	W N W byS	Strong gale with hard squalls & heavy sea.

Brig DOLPHIN, Jersey to Newfoundland.

(Communicated by C. Lequesne, Esq.)

Time.	Course.	Wind.	Bar.	Ther.	
					Monday, April 15th.
10.	SSW	W			Noon. Lat. Obs. 47,04 Long. 35,25 Moderate
Noon.	S	WSW	29,80	54	breeze and hazy weather, let out all reefs and set topgallant sails. pm. Fresh breeze and cloudy
6.		SSW			weather. 6 pm. Strong breeze and dark cloudy weather, handed the topgallant sails, maintrysail, and jib. 8 pm. Squally, handed the main course.
10.	NWbN	S			Midnight. Wind veered round to the Westward and blew a heavy gale, shortened sail to close-reefed main topsail, wore ship and lay to. [on starboard tack Ed.]
					Tuesday, April 16th.
2am.	UpSSW	WSW			7 am. More moderate, set the foretopsail. Noon.
10.	SSW	W			Do. weather, made all possible sail Lat. DR.
Noon.	NW	WSW	29,20	58	47,03 Obs. 47,01 Long. DR. 37,38 pm. Fresh breeze with a heavy sea ; ship straining. 8 pm. More moderate, set the boom mainsail. 10 pm. Squally and unsettled weather, handed jib, main-
Midt.		SWbW			trysail and main course. Midnight. Do. weather.
					Wednesday, April 17th.
					2 am. Getting more moderate, made all possible sail. Noon. Lat. DR. 47,36 Obsd. 47,28 Long.
Noon.			29,20	60	DR. 39,22

Schooner OCEAN, from Jersey to Newfoundland.

(Communicated by C. Lequesne, Esq.)

Time.	Course.	Wind.	
			Monday, April 15th.
10	N	NNW	Noon. Light winds and cloudy, with fair weather. Lat. Obs.

(Log of Ocean continued.)

Time. Course. Wind.
43.58 DR 44.03 Long. Chr. 30.07 DR 29,35 pm. Mod.
breeze and cloudy with all standing sail set. 3 pm. Handed
the main-royal. 8 pm. Increasing breeze with drizzling
rain, handed the fore & main-topgallant sails, single-reefed
the maintrysail & double-reefed the foretopsail. Midt. Strong
breezes and thick weather, single-reefed the main-topsail.

Tuesday, April 16th.

6 N 6 am. More moderate, let 2nd reef out of foresail and fore-
8 NbW topgallant sails. 8 am. Let the 1st reef out of the main-
topsail and main-trysail. 10. Squally. Noon. Moderate
breezes and fine clear weather. Lat. DR 44.49 Obs. 44.55
2 pm. WbN Long. Acct. 32.12 Chr. 33.10 pm. Moderate breeze and
cloudy. 5 pm. Squally with rain and thunder in the NW
10 NW WSW quarter. Midnight. Increasing breezes and squally, with
hard rain, handed the fore and main-topgallant sails, and
double-reefed the fore and main-topsails.

Wednesday, April 17th.

6am. WNW SW 4 am. More moderate. Let the second reef out of the fore
and main-topsail, and set the topgallant sail. 7 am. Fresh
gales and squally, attended with heavy rains, handed the
main-topgallant sails, stowed the jib and main-trysail, and
set the main-staysail. Noon. Lat. Obsd. 45.52 DR 45.47
Long. DR 34.13 Strong breezes and clear weather, set the
single-reefed main trysail, square mainsail & jib. pm. Strong
2 pm. SWbS gales of wind, and cloudy weather, with a heavy head sea on.
6 pm. Increasing breezes and squally, attended with hard
rain, thunder, and lightning, handed the square mainsail,
fore-topsail and main-trysail.

Thursday, April 18th.

Noon. Lat. DR 46.33 Long. DR 34.55.

Barque WESTMINSTER, Forbes Michie, Commander.
Bombay towards London.
(Communicated by Messrs. D. Dunbar and Sons.)

		Noon.			Wind.			
	April.	Lat.	Long.	Bar.	AM.	Noon.	PM.	
Sat.	13th,	32,10	35,52	30,32		wsw	wbs	Steady breeze and hazy.
Sun.	14th,	34.57	34,32	30,25	w	ENE	NE E	Squally with rain. Strong. 3 pm. Sudden shift of wind to ENE & NE with heavy rain. Moderate with thick rain.
Mon.	15th,	36,21	33,36	30,25	ESE SE	S W	SW	Rainy. Moderate and hazy. Do. weather.
Tues.	16th,	38,54	31,52	30,12	swbw	wsw	sw	Steady and cloudy. Strong & hazy. Squally and strong.
Wed.	17th,	40,19	28,56		wbs	wsw	sw	Strong. Moderate. Steady.
Th.	18th,	42,45	26,14	30,07	sw	wsw	sw	Heavy squalls with rain, steady and hazy. Moderate.
Fri.	19th,	44,51	23,36	30,12	sw	WNW	w	Moderate. Strong. Strong and steady.

(Log of Westminster continued.)

		Lat.	Long.	Bar.	AM.	Noon.	PM.	
Sat.	20th,	46,36	18,47	30,22	W	WbN	WNW	Increasing breeze. Very heavy Westerly swell. Strong.
Sun.	21st,	48,11 by DR 47,38	16,31	30,23	NW	W	WNW	Light, with heavy Wly swell.

H. Chatfield, Chief Officer.

R. M. West India Steam Packet SEVERN, Wm. Vincent, Master.
Southampton to the West Indies.

Time.	Course	K.F.	Wind.	Bar.	
					Monday, April 15th.
Noon.		7,6		29,94	Noon. Peak of Pico bearing E¾N. Lat. 37,44 Long. 39,38.
8.		7.4	SWly	,95	pm. Fresh breeze and hazy with a Westerly swell,
Midnt.	S			.92	Midnt. Fresh breeze with dark overcast weather.
					Tuesday, April 16th.
am.		8to7	WbS	,92	Moderate breeze and fine weather, occasionally cloudy. Noon. Lat. 35,56 Long. 32,34
pm.		7to5,4		,92	6 pm. Considerable swell from Northward.
					Wednesday, April 17th.
am.		5,6	WSW	,92	Fresh breeze and fine clear weather all day. Noon. Lat. 34,26 Long. 3438
					Thursday, April 18th.
Noon.		6,		30,00	Fresh breeze and fine weather this forenoon. Noon. Lat. 32,43 Long. 36,48

Wm. Vincent, Jr. Midshipman.

R. M. W. St. P. Co. St. Ship AVON. Bermuda to Southampton.

Time.	Course.		Wind.	Bar.	
					Sunday, April 14th.
					Noon. Lat. 42.32 Long. 38.15
					Monday, April 15th.
4am.	E½N	8.4	SEly	30,00	4 am. Light breezes and cloudy, from this time
7		8.6	SSE	29,95	till Noon. Barometer falling slowly, and breeze
Noon.		9.6		,90	freshening. At Noon Lat. by Acct. & Obs. 43,52
1 pm.		10.	Sly		Long. by Acct. 34,02 By Chron. 33.50 pm.
3		10.	SSE	,80	Strong breezes. 4 pm. Fresh gales. 6. Fresh
7		10.	S	,65	gales with heavy squalls and rain. 8. Strong gales with do. weather. 10. Do. weather. 11. Do. squalls.
Midt.		10.		,48	Midnt. Strong gales and squally, with light rain. Barometer falling steadily and slowly.
					Tuesday, April 16th.
2 am.		10.		,42	am. Strong gales and thick weather. 2. Bar. at
4		10.	SW	,42	lowest, wind inclining to Westward. 4. More mod-
6		9.	W	,42	erate and cloudy. 6. Decreasing gale and fine.
8		9.4		,43	8. Strong breeze with squally appearance to West-
Noon.		9.2		,46	ward. 9. Cloudy with rain. Noon. Fresh breeze and fine. Lat. by Acct. 45,23 Obsd. 45,36 Long. by Acct. 28,57 By Chron. 29,1 [The vessel had been set to NE of her reckoning 18 miles. Ed.]

(Log of Avon continued.)

Time.	Course.	Wind.	Bar.	
1 pm.	E 9.			pm. Fresh breeze & fine, with occasional showers
10		SW	,61	Bar. rising. 9. Wind veering. Midnt. Moderate
Midt.			,59	breeze and thick hazy weather
				Wednesday, April 17th.
Noon.			,67	Noon. Lat. Obsd. 46,48 Long. by Chron. 23,46

Charles Gordon, Chief Officer.

Abstract from the Log of the CHANTICLEER, from Bahia to London.

(Communicated by Messrs. Newman and Hunt.)

Date.		Wind.		Weather.	Lat.	Long.
Monday,	15th.	WNW	Vble.	Fair. Heavy Northerly sea.	42,55	28,58
Tuesday,	16th.	SW	West.	Showery.	44,48	25,31
Wednes.	17th.	WSW	West.	Hazy.	46,24	22,26
Thursday,	18th.	SW	WbS	Rainy; unsettled werathe.	48,11	18,10
Friday,	19th.	SW	WSW	Hazy; dirty weather.	48,50	13,10
Saturday,	20th.	WSW & WNW	WNW & WSW	Showery; squally weather.	49,07	8,27

London and New York Liner SOUTHAMPTON, E. E. Morgan, Commander.

London to New York.

Time.	Course.	Wind.	
			Wednesday, April 17th.
			am. Pleasant weather. Noon. Lat. Obsd. 48.27 Long. 23.33
1pm.	NW	N	pm. Pleasant weather.
			Thursday, April 18th.
2am.		S	6 am. Double reefed the topsails, the wind blowing strong
			from the South, and raining, and the weather looking bad.
8.		W	8 am. Wind shifted suddenly to W and blowing very hard,
9.	E		close reefed the topsails, furled foresail and mainsail. Lat.
10.	SSW		49,27 Long. 25.16 pm. Strong Wly gales, and short ugly
1pm.	N	WbS	sea causing the ship to roll very heavily and take in some water.
			2 pm. More moderate, set foresail. 8 pm. Blowing very
			heavily in squalls, took in foresail, fore and mizen topsails;
			during the night blowing very heavily, ship labouring and
			straining very much.
			Friday, April 19th.
			Day-light. Moderating, set foresail & foretopsail. Noon. Lat.
1 pm.		WSW	DR 50.33 Long. 24.53 pm. Soon after noon increasing to a
			very heavy gale, took in fore sail and fore topsail. 4 pm.
			Blowing a hurricane, with a tremendous heavy sea causing
			the ship to labor hard, occasionally ship a sea that would
10		W	flood the decks. 8 pm. Weather the same. 10 pm. Moderating
11	NNE		a little, ship labouring hard and shipping much water.
			Midnight. Still moderating.
			Saturday, April 20th.
6 am.	SW	NW	6 am. Wind hauled to NW in a squall, wore ship to Westward
9	WSW		and made a little sail. 8 am. Still moderating. Noon.
			Moderate breezes NNW. Ship under double-reefed topsails

(Log of Southampton continued.)

Time.	Course.	Wind.	
			and whole courses. Lat. Obsd. 51.11 Long. 24.51. pm.
pm.	SW		Moderate Westerly winds. Made all sail. 6 pm. Wind set
6		S	in from Southward, and increasing, took in sail.
			Sunday, April 21st.
			Noon Lat. Obsd. 50.40 Long. Obsd. 27.16

Contract St. Packet CAMBRIA. Liverpool to New York.

(Communicated by their Lordships the Commissioners of the Admiralty.)

Time.	Course.	Wind.	
			Wednesday, April 17th.
pm.		SSW	Noon. Lat. 50,02 Long. 20,19 pm. Light breeze and hazy
		WSW	6. Wind hauling to the Westward. Midnight. Moderate
		W	head wind and clear weather.
			Thursday, April 18th.
am.		W	am. Light winds and clear. 3. Wind inclining to SW.
		SW	5. Strong increasing breeze. 9. A sudden shift of wind from
		S	S to WNW in a very heavy squall; split the jib; in all
9		WNW	sail. Noon. Strong gale and clear weather with heavy head
		W	sea. Lat. 49,56 Long. 25,25 pm. Strong gale and squally
pm.	WNW		with a heavy head sea. 4. Do. weather. 9. Very heavy
			squalls with rain & much lightning. Midnight. Heavy gale
			and violent squalls.
			Friday, April 19th.
am.	NbW	WSW	am. Heavy gale and high head sea. 4. Heavy squalls with
	WNW	W	rain. 5. Set on the engines (which had been stopped since
	NW		5 pm yesterday) full speed. 8. Heavy gale and high head
			sea with very heavy squalls. Noon. Same weather and wind
pm.	NW		Lat. 50,14 Long. 26,54 pm. Strong head gale and very
			heavy sea. Revs 8. 4. Do. weather, shipping heavy seas,
4	WNW	W	8. No abatement of wind or sea. 10. Do. weather. Midnt.
			A little more moderate.
			Saturday, April 20th.
am.	WNW	NW	am. Wind moderating and inclining to the NW, ship rolling
		WNW	heavily and shipping much water. Revs. 7½. 6. Strong
			breeze and clear with do. sea. 10. Less wind & sea. Revs.
Noon.			10. Noon. Moderate and hazy; 12 miles allowed for drift
			these 24 hours. Lat. 50,01 Long. 29,30

W. V. Lee, Admiralty Agent.

Penin. and Orient. Co. S. S. JUPITER, Francis Meehan, Commander.

Gibraltar to Oporto.

Time.	Course.	Wind.	Bar.	Th.	
					Thursday, April 18th.
Noon.		Vble.	30,20	76	Noon. In Gibraltar Bay. Calm and clear weather.
8 pm.	W		,18	73	6.30 Weighed and set on. 8. Moderate & clear
11		W			weather. 11.10 Tarifa E by S
					Friday, April 19th.
am.	NW	NW			am. Moderate breeze and clear weather.
4			,16	68	
6		NE			6.20 Stopped & anchored in Cadiz Bay.

(Log of Jupiter continued.)

Time.	Course.	Wind.	Bar.	Th.	
8		ENE	,16	68	10.15 Weighed and set on.
Noon.		N	,16	75	Noon. Pleasant weather & moderate breeze. Cadiz
4		NW	,16	74	Light-house bearing SEbS distant 5 miles. 4. Do.
8			,20	70	weather. 8. Moderate breeze and cloudy weather.
Midt.			,20	71	Midnt. Moderate breeze and clear.
					Saturday, April 20th.
am.		NbyE			am. Moderate breeze and clear weather. 4. In-
4		NNE	,20	70	creasing breeze and cloudy. 8. Fresh breeze and
8			,20	67	cloudy. Noon. Fresh breeze and cloudy. Lat.
Noon.			,20	71	Obsd. & Acct. 38.2 Long. Acct. 9.19; Cape Espi-
					chel NNE 6 leagues. 3 20 Cape Espichel ESE
4 pm.			,15	72	8 miles. 5.20 Passed St. Julien. 6. Stopped off
					Belem. 6.50 Made fast to buoy off Black-horse
8			,15		square. Light variable airs, and clear weather.
Midt.		NW			Midnt. Do. weather.
					Sunday, April 21st.
9 am.		NNE			am. Moderate breeze and cloudy weather. Noon.
Noon.		NE	,02	73	Moderate breeze and cloudy weather. pm. Clear.
4 pm.			,00	71	1.5 pm. Proceeded towards Oporto and Vigo.
					2.20 Round St. Julian; [heavy breakers on North
					Cachop and bar to the Southward, extending far-
					ther to Westward than ever before noticed; Frs.
5	NNE				Meehan.] 6. Moderate breeze and heavy Westerly
8			,00	71	swell. 8. Do. weather. 10.30 Peniche Light
Midt.			,01		ESE 3 miles. Midnt. Moderate breeze and clear
					weather.
					Monday, April 22nd.
am.	NE	NNE			am. Moderate breeze and cloudy. 4. Do. wea-
4			,02	70	ther; heavy Westerly swell. 8. Moderate and
8			,05	68	cloudy. Noon. Moderate breeze and long Wes-
Noon.			,10	63	terly swell. Lat. Obsd. 40.44 Long. Acct. 8.51
					Aveiro SE½S 9 or 10 miles. 4.15 pm. Exchang-
4			,08	70	ed colours with P. & O. S. S. Iberia off Oporto.
8			,05	70	4.30 Stopped off Bar. 8. Calm and clear weather
					with heavy Westerly swell.

Daniel G Munro, First Officer.

Pen. and Or. S N Co S S INDUS, J. Soy, Commander.

Gibraltar to Southampton.

Time.	Course.	Wind.	Bar.	Th.	
					Friday, April 19th.
Noon.	NNE	WNW	30,40	70	Noon. Lat. Obsd. 40,25 Long. Chr. 9,52 Light
4 pm.			,34	67	breezes and cloudy weather. 4. Moderate breezes
					and cloudy. 6. Light breezes with drizzling rain.
8			,33	66	8. Light breezes and cloudy hazy weather. Midt.
Midt.			,28	65	Moderate breezes and cloudy with long Wly swell
					Saturday, April 20th.
am.					am. Moderate breezes with small rain at times.
4			,26	64	4. Clearing up. 8. Do, with a long swell from the
8			,18	66	NW. Noon: Moderate breeze and cloudy with a
Noon.			,17	73	long swell from NW. Lat. Obs. 44,5 Acct. 44,3

(Log of Indus continued.)

Time.	Wind.	Course.	Bar.	Th.	
pm.	NE½E				Long. Acct. 9,11 Chron, 9,18,45 pm. Increasing
					fresh breeze with a heavy swell from the Westward
4			,03	67	3.30 In 1st reef of foretopsail. 4. Strong winds
					and cloudy. 6,30. Increasing breezes; in 2nd
8			29,97	66	reef of foretopsail. 8. Strong breezes with a heavy
Midt.			,85	55	sea from the Westward. Midnight. Strong breeze
					with passing squalls & a heavy swell from WNW
					attended with rain. -
					Sunday, April 21st.
					am. Strong breezes with heavy squalls and a high
4 am.			,80	56	sea on, ship lurching heavily. 4, Do. weather and
5		NW			sea. Daylight. Blowing in hard squalls with rain.
8		NWbN	,79	62	8. Strong breezes and hard squalls, wind drawing
Noon.			,93	58	more to Northward; ship rolling heavily. Noon.
					Wind moderating, cloudy weather with a high sea
					Lat. Obs. 46,57,38 Acct. 47,5 Long Acct. 7,22
					Chr. 7,17. Course made good By Obs. 190 miles
1 pm.		NNW			N 24,34 E By Acct 199 miles N 25 E. pm. Fresh
					breeze and cloudy weather, with sea going down.
4			,94	60	4. Decreasing fresh breezes and cloudy, with less
8			,96	54	sea. 8. Moderate breezes and clear, sea going
Midt.			,98	52	down. Midnight. Moderate breezes and cloudy,
					with a swell from NW
					Monday, April 22nd.
4 am.	EbN		,98	52	4 am. Light breezes and cloudy weather, swell
8			30,01	56	going down. 8. Light breezes with passing clouds
Noon.			,04	66	Noon. Lat. Obs 49,25 Acct. 49,33 Long. Acct.
					4,27 Chr. 4,32

George Bradshaw, Chief Officer.

Bark FRANCES WALKER, D. F. Hay, Commander.

Calcutta to London.

Time.	Course.	Wind.	
			Thursday, April 18th.
Noon.	E½S	SW	Noon. Lat. 47.10 Long. 16.34 pm. Strong breeze, drizzling
8		Vble.W	rain. 4. Strong breeze, cloudy. 8. Do. 9. More
Midt.		W	moderate. cloudy. Midnt. Do. do.
			Friday, April 19th.
4		Vble. S	am. Moderate breeze and cloudy. 6. Increasing breeze.
6		SW	Noon. Strong breeze, squally, Lat. 48.15 Long. Acct.
3		Vble	11.37 pm. Strong breeze, squally. 4. Hard squalls; Vble
		toWNW	Westerly wind, rain and heavy sea. 8. Strong gale & clear.
6		W	Midnt. Strong gale and high sea, shipping much water.
			Saturday, April 20th.
			am. Strong gale, and clear. Noon. Strong gale and squalls
			with passing showers and high sea. Lat. 48.41 Long. 9.17
pm.	ESE	WNW	pm. Strong gale and high sea, squally, with passing showers,
9	EbyS		6. Increasing gale, squally. Midnt. Strong gales & squalls,
			and a high sea,
			Sunday, April 21st.
am.		Vble Nly.	am. Hard gales and squalls. 6. Strong gales and high sea.

(Log of Frances Walker continued.)

Time.	Course.	Wind.	
4		NNW	Noon. More moderate and a falling sea. Lat. 49.6 Long.
6		N	5.14 pm. Strong gale, sea falling. 4. More moderate, set
9 pm.	ENE	NNW	single-reefed topsails. 6. Fresh breeze and fine. Midnight.
			Strong breeze, clear.
			Monday, April 22nd.
3 am.		N	am. Strong breeze, clear. 3. Moderate and cloudy. 8. Mod-
9		NE	erate and clear. Noon. Light winds and fine. Lat. 49.59
			Long. 3.1

Bark SULTANA, D. Mainland, Commander.

London to Port Adelaide.

Time.	Course.	Wind.	
			Thursday, April 18th.
Noon.	S	WbS	Noon. Position about 45,50 N Long. 10,40 W Light
8	NW		winds and clear. pm. Moderate breeze and fine. 10. Breeze
			freshening. Midnt. Fresh breezes, thick weather.
			Friday, April 19th.
2 am.		WSW	am. Fresh breezes and thick. Noon. Strong breezes, hazy,
6 pm.		WbS	small rain. Lat. DR 45,43 Long. Acct. 12.24 pm. Do.
10		W	weather. Midnt. Fresh breezes and cloudy.
			Saturday, April 20th.
am.	SWbS		am. Wind freshening. 8. Fresh wind, and hazy; high Wes-
Noon.		WNW	terly sea. Noon. Do. weather. Lat. Obsd. 44,56 Long.
			12,24 pm. Fresh breeze and hazy, high sea. 8. Moderate
			breezes. Midnt. Steady breezes, clear.
			Sunday, April 21st.
			am. Steady breeze, clear. Noon. Do. fine. Lat. Obs. 41.52
			Long. 13,8 pm. Light winds, fine. Long rolling swell from
			NW. Midnt. Light winds, cloudy; Heavy sea.

Abstract of Log of West India Royal Mail Steam Packet Co.'s Ship DEE.

William Allan, Esq. Commander.

Southampton to West Indies.

Time.	Wind.	Bar.	Weather.	Lat. Acct.	Obs.	Long. Acet.	Chr.
			Thursday, April 18th.				
Noon.				49.39	·19.38	3.47	3.49
			Friday, April 19th.				
am.	SW	29,95	Strong. Increasing.				
	—	,90	R. M,				
	—	,89					
Noon.	—	,80	R.	48.17	none	6.13	none
	—	,78	Sea getting up.				
	—	,77					
	NW	,77					
			Saturday, April 20th.				
am.	—	,76	Strong squalls.				
	—	,78					
	—	,77	Sea running high.				
Noon.	WNW	,70	Fresh gales.	46.58	46.54	7,21	7.25

(Log of Dee continued.)

Time.	Wind.	Bar.	Weather.	Lat. Acct.	Obs.	Long. Acct.	Chr.
	—	,70					
	—	.70	Strong squalls, gales, heavy sea, shipping much water.				
			Sunday, April 21st.				
am.	NW	,70	Gales, strong & rough sea,				
	NNW	,71					
	—	,71					
Noon.	N	,90		45.18	45.16	8.31	8.35
	—	,96	Strong breezes, high NW sea.				
	—	,96	Moderate breezes.				
	—	30,00	Light breezes.				
			Monday, April 22nd.				
Noon.				42.54	42.52	10.29	10.21

W. Strutt, Chief Officer.

Penin. and Orient. Co. S. S. IBERIA, Charles Fox Burney, Commander.
Southampton towards Vigo.

Time.	Course.	Wind.	Bar.	Th.	
					Thursday, April 18th.
					Noon. Lat. by Obs. 49,10 Long. by Chr. 4,21
8pm.	WbS	WSW	30,07	57	8pm. Light winds and hazy with a westerly swell.
Midt.			,10	58	Midt. Moderate breezes and thick hazy weather.
					Friday, April 19th.
am.	SWbW				am. Moderate breezes & hazy with westerly swell.
4.		SW	,06	56	4; Squally at SW with light rain. 6. Increasing
8.			,04	57	breeze at SW with rain. 8. Fresh breezes and
Noon.			,02	58	thick rainy weather with a head sea. Noon. Do.
pm.		SWbW			Lat. Obs. 47,7 Acct. 47,5 Long. Acct. 7,9. pm,
4.			,00	61	Fresh breezes and cloudy with a head sea. 4. Do.
6.		WSW			weather. 6. Fresh breezes, and dull cloudy wea-
8.			29,96	60	ther. 8. Fresh breezes and thick rainy weather,
					with a confused head sea. 10. Increasing breezes
Midt.		W	,94	58	with heavy rain. Midnight. Strong breezes and
					cloudy, with a confused head sea.
					Saturday, April 20th.
am.		NWbW			am. Strong breezes and cloudy with a heavy con-
4.			,93	60	fused sea, SW to W. 4. Do. weather. 8, Fresh
8.			,94	59	breezes and hazy with a heavy westerly swell.
					10.30 Increasing breezes and squally with heavy
Noon.		WNW	,92	60	showers of rain. Noon. Strong breezes & cloudy
					with a heavy westerly sea. Lat. Obs. 45,13 Acc.
					45,6 Long, Acct. 8,54 Chr. 8,9 Distance made
					good. By Obsn. S 20 W 122 miles. By Acct.
					S 31 W 142 miles ; found the ship set 31 miles
					to Eastward these 24 hours. pm. Do. weather.
4.			,90	60	4. Do. weather. Sunset. Strong breezes & squally
8.		NW	,94	60	with a very heavy sea at WNW. 8. Strong
					gales and squally with a very heavy beam sea ;
					ship rolling very heavily and shipping water fore
Midt.			,98	57	and aft. Midnight. Do. weather.

(Log of Iberia continued.)

Time.	Course.	Wind.	Bar.	Th.	
					Sunday, April 21st.
					am. Strong gales with hard squalls at times and a very heavy NW sea. 3. More moderate. 4. Fresh
4.			30,00	56	breezes and cloudy with a very heavy NW swell.
6.		NNW			6. Fresh breezes & hazy. 8. Fresh breezes NNW
8			,07	58	and thick hazy weather. 11.30 Cape Villano ESE
Noon,			,12	61	7 miles. Noon. Moderate breezes and cloudy with
1pm.		NW			a very heavy NW swell. No observation. 4. Light
4.		Vble	,20	65	winds and fine. 7.20 Anchored off the town of
8.		N	,20	63	Vigo.

London and New York Liner MARGARET EVANS, E. G. Tinker, Commander.

From New York to London.

April	Lat.	Long.	Bar.	Th.	AM.	Noon.	P.M.	Weather.
18th,	49,16	7,10	30,00	55	sw	sw	sw	Light breeze. Light.
19th,	50,16	2,	30,00	50	sw	ssw		Moderate and thick. Strong with thick rainy weather. 10.30 pm. Made Beachy head

20th, At 4 am. took a pilot at Dungeness. Light; Ends with rainy weather.

E. G. Tinker, Commander.

Ship WILLIAM MONEY, J. M. Buckley, Commander.

Mauritius to London.

(Communicated by F. W. Green, Esq.)

Time.	Wind.	
		Thursday, April 18th.
		5.30 pm, Start Point NEbE distant 5 leagues. 6. Fine pleasant weather. Midnight. Cloudy weather.
		Friday, April 19th.
		am. Do. weather. Noon. Fresh breezes with rain. St. Catherines
pm.	SW	ENE, distant about 4 leagues. pm. Fresh breezes and foggy. 4. In topgallant sails. 6. In single reef of the topsails. Midnt. Thick hazy weather.
		Saturday, April 20th.
		7 am. Hove to off Beachy Head, increasing breeze. Noon. Excessive heavy squalls with rain, in topgallant sails and courses. 4.30 Anchored in Prince's Channel.
		Sunday, April 21st.
		Daylight. Hove up & proceeded. 4,30 pm. Anchored off Gravesend. Midnight. Cloudy weather and squally at times.

P. & O. Co. S. S. RIPON, Robert Moresby, Commander.

Southampton to Gibraltar.

Time.	Course.	Wind.	Bar	Th.	
					Saturday, April 20th.
am.		SW			Daylight. Moderate breeze and fine weather. In
8		SSW	29,30	52	Southampton Docks. Noon. Increasing breeze &

(Log of Ripon continued.)

Time.	Wind.	Course.	Bar.	Th.	
Noon.		WSW	,30	58	showery. pm. Strong breeze and squally weather.
1 pm.		SW			3.15 Passed out of Dock. 4. Rounded Calshott.
4			,35	52	6.30 Passed through the Needles Channel; sent
					main and mizen topmasts and foreyard down on
8		W	,40	51	deck. 8. More moderate, with heavy Westerly
Midt.	W	WNW	,30	50	swell. Midnight. Moderate breeze and cloudy;
					passed a steamer steering to the Eastward.
					Sunday, April 21st.
4 am.			,35	54	am. Moderate breeze & thick hazy weather. 6.30
8	WSW	NW	,50	54	Haze clearing away; saw the Start Light-house
Noon.			,55	54	bearing NNE½E distant 8 miles. Noon. Fresh
					breeze with heavy Westerly swell. Lat. Obs. 49.31
					By Acct. 49.39 Long. Acct. 4.25 Chron. 4.33
2 pm.	SWbW				pm. Do. weather and swell. At 2 set the foretop-
					sail and square foresail, sent up the topgallant
4			,85	59	yard and set the sail, and got the jib-boom out,
8			,85	51	and bent the jib, and set it. 6. Do. weather. 8.
Midnt.			,85	50	Moderate breeze and fine weather. Midnight. Do.
					weather.
					Monday, April 22nd.
4 am.			,90	52	am. Moderate breeze and cloudy weather. 4. Do.
8			,95	52	weather. 6. Took in fore-topgallant sail. 9. Wind
Noon.			30,00	57	heading, took in & furled all square sails. Noon.
					Light breeze and hazy weather. Lat. Obs. 46.37
					Acct. 46.33 Long. Acct. 7.15 Chr. 6.59.

Henry Down, Chief Officer.

R. M. W. I. St. P. Co. St. Ship AVON. Bermuda to Southampton.
(Continued from Page clv.)

Time.	Course.	Wind.	Bar.	
				Wednesday, April 17th.
2 am.		SSW	29,60	am. Moderate breeze and hazy. 1. Squally ap-
4			,60	pearance, with lightning to SW. 4. Moderate
6		S	,62	breeze and fine.
8			,62	8. Moderate breeze and fine. 9. Set topmast and
10		SSW	,66	lower studsails.
Noon.			,67	Noon. Moderate breeze and fine clear weather.
2 pm.			,68	Lat. Acct. 46.42 Obsd. 46.48 Long. Acct. 23.47
4			,70	Chr. 23.46 pm. Do. weather. 4. Do. do.
6		Vble.	,74	6. Moderate breeze and foggy.
8		S	,75	8. Moderate breeze and cloudy.
10			,78	11. Squally appearance to SW. Midt. Moderate
Midnt.			,80	breeze and hazy.
				Thursday, April 18th.
2 am.			,80	am. Moderate breeze and cloudy.
4			,82	4. Do. do.
6			,82	6. Increasing breeze. In foretopmast studding sail.
8			,82	8. Fresh breeze and thick weather.
10			,80	10. Strong breeze, in jib. 11.30 In fore trysail,
Noon.			,78	and double-reefed topsail. Noon. Strong breeze

(Log of Avon continued.)

Time.	Course.	Wind.	Bar.	
				and cloudy. Lat. Acct. 47.49 Obsd. 47.48 Long·
2 pm.	E b S		,78	Acct. 17.48 Chr. 17.26 pm. Strong breeze and
4			,78	thick weather, altered course to E by S. 4. Do.
6			,80	weather. 6. Strong breeze with much rain.
8		SW	,81	8. Fresh breeze, weather clearing up, wind hauling to Westward. 9. Out reefs of topsails and set topgallant sail and gaff topsail.
10			,82	10. Fine weather. Midnt. Moderate breeze and
Midt.	E ½ S		,86	hazy; altered course E ½ S.
				Friday, April 19th.
2 am.			,86	am. Moderate breeze and hazy weather.
5		Vble.		4. Do. and thick weather.
6		S	,85	8. Moderate breeze and cloudy weather. Noon.
8			,85	Fresh breeze and thick hazy weather. Lat. Acct.
10			,83	48.33 Obsd. (indifferent) 48.34 Long. Acct.
Noon.			.83	11.18 Chr. 11.25 pm. Fresh breeze SSW and
2 pm.		SSW	,80	damp cloudy weather.
4		Vble.	,76	4. Strong breeze with mizzling rain. 5. Squally; in gaff-topsail and topgallant sail.
6		SW to	,75	6. Sudden shift of wind to WNW, with heavy
8		W	,77	squalls. 8. Fresh breeze and clearing up.
10			,76	9. Out reefs. Midnt. Moderate breeze and fine
Midt.				clear weather, altered course to E.
				Saturday, April 20th.
2 am.	E	WSW	,76	am. Fresh breeze and fine clear weather.
4			,76	4. Do. weather, altered course E by N.
6	E b N		,74	6. Hazy.
8		W	,73	8. Fresh breeze and fine, but hazy; stopped and
10			,73	sounded 60 fathoms, coarse sand & broken shells.
Noon.		WSW	,73	Noon. Fresh breeze and very hazy: sounded in 56 fathoms, coarse sand and yellow stones. Lat.
2 pm.			,60	by Acct. 49.50 Obsd. 49.34 Long. Acct. 5.19
4			,52	Chr. 5.20 pm. Do. weather.
6	NE b E		,49	4. Fresh breeze and hazy weather. 4.30 Observed
8	E ½ N		,46	land about Bolt Head NE by N.
10			,46	8. Decreasing breeze & passing clouds, with rain.
Midt.	E b N		,46	Midnight. Light breeze and hazy.
				Sunday, April 21st.
2 am.		NW	,45	am. Light breeze & hazy weather.
4			,45	2.20 Observed Hurst Lights.
6			,46	4. Light breeze and cloudy.
8			,46	4.45 Passed the Needles.
10			,50	7.20 Entered Southampton Docks.
Noon.			,52	
2 pm.			,54	[N.B. For 16 hours the AVON's Barometer
4			,60	had remained nearly stationary; It is worthy of
6			,64	observation how rapidly it rose after she ceased
8			,64	to keep up with the Storm. Ed.]
10			,70	
Midt.			,75	Charles Gordon, Chief Officer.

Log of the COLDSTREAM, from London to the East Indies.

(Communicated by Messrs. R. & H Green.)

Thursday, April 18th.

Noon. Moderate breeze and fine. pm. Strong breeze SW, & cloudy. Midnt. Fresh gale, thick weather.

Friday, April 19th.

am. Fresh gale, Westerly, thick weather. Preparing for sea. Noon. Increasing gale, much rain. pm. Hard gale with thick weather.

Saturday, April 20th.

am. Fresh gale WSW and cloudy. Noon. Strong gale and fine. pm. Fresh gale, thick rainy weather. Midnight. Fresh breeze, thick weather.

Sunday, April 21st.

am. Moderate breeze WNW with hazy weather. Made all plain sail. 9. Brought up at Spithead. Wind moderate NNW. Noon. Moderate breeze Northward and fine. pm. Light Northerly breeze with rain. Midnight. Calm and fine.

[DOLPHIN continued; this Log should have been added at Page clii. Ed.]

Time.	Course.	Wind.	Bar.	Th.	
					Wednesday, April 17th.
2 am.	NW	SWbW			2 am. Getting more moderate, made all possible
8	NNW	W			sail. 9 am. Hard gales with a heavy sea, short-
					ened sail to close-reefed maintopsail, and lay the
Noon.	Up		29,20	60	ship to. Noon. Continuation of weather. Lat. DR.
2pm.	NWbW	W			47.36 Obs. 47.28 Long. DR. 39.22 pm. Strong
4	WbN	S			gale with a heavy sea, ship labouring very much.
10	Up NNW				8. Do. weather with rain. 9. Gale (heavy) still
Midt.		SSW			increasing, with heavy sea running.
					Thursday, April 18th.
					8 am. Do. weather, sea making a complete breach
					over the ship. 10 am. Shipped a heavy sea which
Noon.			28,30	60	carried away boats, (&c. &c.) Noon. Do. weather.
pm.	Up SWbS	W			Lat. DR. 47.08 Long. DR, 39.37 pm. Continu-
					ation of the hard gales throughout these 24 hours
					(i.e. to Noon of next day), ship labouring very
					much, carried away doors of galley, and several
					pieces of bulwarks.
					Friday, April 19th.
Noon.			28,30	60	am. Do. weather. Noon Lat. DR. 47.40 Long.
					39.02 pm. Continuation of strong gales. 8 pm.
					More moderate, set the reefed foresail. 10 pm. Set
					the reefed main course.
					Saturday, April 20th.
4 am.	NW	E			2 am. Still a heavy sea. Wore ship. Noon. Lat.
Noon.			29,00	61	DR. 47.31 Long. DR. 39.52

The continuation of this Storm will be found in the next Section.

	SCILLY ISLANDS.						GUERNSEY.						
Apr.	I.	II.	IV.	V.	VI.		I.	II.	III.	IV.	V.	Clouds.	VI.
10	29,29	46	SW	4	C	..							
	.21	49	SE	4	BCPR		29,390	48	,055	SE			BCM
	,12	51	—	5	BC		,232	51					
	,04	47	ESE	6	R						4	7,	O
11	,04	47	NE	5	D	..							
	,11	48	NNE	4	D		,276	55	,055	SE			BCP
	,20	49	NW	3	M		,391	53					
	,28	49	—	3	M						5	5,	
12	,49	49	NE	4	CPR	..							
	,64	49	NEbN	4	C		,588	52	,194	SW			CB
	,77	51	N	3	BCM		,672	55					
	,85	48	NW	3	BC						0	4,5	
13	29,83	48	SW	3	BCM	..							
	,76	51	—	4	R		,856	54		SW			BC
	,80	52	NW	5	BCM		29,811	51					
	,90	48	WNW	5	BV						3	6,5	R
14	29.90	48	SW	3	M	..							
	,78	50	—	4	R		,888	56	,111	W			CP
	,52	47	SSE	6	R		29,802	50					
	,47	50	SSW	6	R						2	6,3	Gale.
15	,28	50	-	6	M	..							
	,21	53	SW	6	BCM		,394	54	,333	SW			CBPQ
	29,18	53	SWbS	6	BCM		,353	56					
	,07	50	—	6	BCM						5	5,	
16	28,89	49	WSW	8	CPR	..							
	,89	52	—	8	BCPR		,158	50	,111	SW			PQ
	29,15	53	WNW	7	BCPR		,204	53					
	,36	50	NW	7	BCM						7	7,5	Gale.
17	,50	48	WNW	5	M	..							
	,58	53	W	4	C		,596	53	,250	W			CB
	,67	52	—	4	CPR		,652	56					
	,80	49	WNW	4	BC						2	5,	R
18	,92	49	—	3	BC	..							
	.97	55	SW	3	BM		,956	56	,027	NW			B
	30,00	55	SWbS	3	M		30,188	55					
	,00	51	SW	4	M						2	0,	R
19	29,91	50	SWbS	5	M	..							
	,92	53	WSW	5	M		30,044	51	,013	SW			P
	29,81	52	SW	4	M		29,960	52					
	,73	50	—	6	R						2	10	R
20	,70	50	—	6	C	..							
	,64	55	—	5	BCPR		,734	54	,888	W			BP
	,51	52	—	6	BCPR		,958	55					
	,43	49	WSW	7	BCPR						5	4,5	Q
21	,56	47	NNW	6	BCPR	..							
	,68	52	NWbN	7	BC		29,572	53	,138	NW			GM
	,86	52	NNE	6	BC		,720	55					
	,92	50	NbW	4	BC						2	7,5	B
22	,92	49	NE	3	BC	..							
	30,01	52	—	3	BCM		,914	55		NW			B
	,03	52	NbE	3	BCM		,938	55					
	29,90	47	—	3	BC						2	5,	B

	APPLEGARTH MANSE.						FLAMBOROUGH HEAD.				
Apr.	I.	II.	III.	IV.			I.	II.	IV.	V.	VI.
10					Rain.	..					
	29,12	50									
	,27	43		S	Frost.						
11						..					
	,34	57			Sunshine.						
	,41	33		SE							
12						..					
	,62	57		SE	Fine.						
	,72	41		SSW							
13						..					
	,75	55			Fine.						
					Cold, windy.						
	29,68	37		SSE							
14						..					
	,78	54			Strong & cold,						
	29 66	38		E							
15						..					
	,35	46			Rain and high wind.						
	,06	40		E							
16						..					
	28,98	55			Fair, fine ;						
					Drizzle.						
	,98	43	0,55	E							
17						..					
	29,19	53			Fine.						
					Heavy shower.						
	,43	38		W							
18						..					
	,70	55			Mild.						
					Showers.						
	29,75	42		SW							
19					Rain.	..					
	,59	58		SW	Fine.						
	29,59	45		SE							
20					Rain.	..					
	,25	50			Showery.						
	,29	42		WSW							
21						..					
	,53	56			Fair & fine.						
	,74	40		NW							
22						..					
	,89	55		N	Cold and clear.						
	,90	36		E							

	BOURTIE MANSE.			SANDWICK MANSE.				
Apr.	I.	II.	VI.	I.	II.	III.	IV.	VI.
10								
	28,90	42	P.	29,22	46			Hazy.
			Heavy rain.					
				,33	44	,07	SE	Clear.
11								
	29,15	46	Fine.	,41	46			D. R.
			Cold.					
				,56	45	,03	SE	
12								
	,42	42	Cold, dull, dry.	,72	49			Bright.
			Fine, overcast.					
				,84	43		SE	
13								
	29,52	40	Cold and dull, often	,84	45			Cloudy.
			drops of rain.					
			Quiet and gloomy.	,89	40		SE	Clear.
14			Showery.					
	29,57	40	Overcast.	,89	47			Clear.
			S E Cold and showery.					
				29,88	42		SE	Cloudy.
15								
	29,30	37	Cold & rough showers.	,67	43			Dry do.
			SE, Brisk blustering.					
			Violent E storm, heavy rain all night.	29,43	42	,05	ESE	
16								
	28,77	42	Still raining, milder.	,10	45			R. C.
			Clearing during day.					
			showery; sunny.]	,07	43	,20	SE	
17			Foggy.					
	,85	45	Fine and sunny.	,13	48			Cloudy.
			Hail & rain showers.					
			Sunny. Wind W	,27	45		SW	
18								
	29,325	49	Sunny. Brisk WbN.	,58	47			Showery:
			E. Fair and sunny.					Bright.
			Showery.	29,72	45	,02	SE	Cloudy.
19			S. Rainy.					
	29,275	45	Much rain till Noon.	,44	48			Cloudy.
			W Soft and fine.					Showers.
				,44	44		S	Cloudy.
20			Foggy.					
	,10	47	Bright, light E wind.	,45	50			Bright.
			E. Sunny.					
			Thick sea fog.	,52	46	,17	NNE	Cloudy.
21			Rainy.					
	,25	42	NE. showery, day cold	,69	44			Cloudy.
			& blustering; sunny.					Drops.
				,86	42		N	
22	,62	39	[Very cold, blustering NW; showers.	30,03	42			Bright.
			Strong.					Clear.
			Quiet.	,08	40	,12	N	

SUMBURGH HEAD.								HELIGOLAND.				
Apr.	I.	II.	III.	IV.	V.	VI.		I.	II.	IV.	V.	VI.
10							..	29,47	42	ENE	4	FR
	29,15	42	,15					,46	40	SE	2	FR
					Strong			,44	41		0	FR
	,20	40		S	Gale.	Haze.		,40	40		0	OM
11							..	,38	38	ENE	1	F
	,28	42	,04					,44	40		0	F
					Strong			,45	42	ESE	2	C
	,40	40		SW	Br.	Haze.		,46	39	E	2	O
12							..	,48	39	EbS	3	D
	,50	41	,06					,51	42	ESE	3	F
					Mod.			,57	46	—	3	BC
	,64	40		SW	Br.	Clear.		,63	42	—	5	F
13							..	,65	39	—	5	OM
	,70	43						,68	42	—	2	C
					Mod.			,72	43	—	0	BC
	,76	42		SW	Br.	Clear.		29,72	40	—	0	C
14							..	,70	40	SE	2	O
	,76	44						,70	44	—	1	C
					Light			,73	45		0	BC
	29,70	43		S	Airs.	Clear.		29,74	40	ENE	1	OV
15							..	,72	41	SE	1	OV
	,55	42						,68	42	—	3	C
					Strong			29,57	47	—	4	BC
	29,30	40		SE	Br.	Haze.		,43	45	—	6	C
16							...	,33	44	SEbS	7	O
	28,98	40						,29	44	SbE	6	R
					Strong	Fog		,32	47	—	5	R
	,98	40		SE	Br.	Rain.		,35	47	S	5	C
17							..	,32	44	—	6	BC
	29,00	43						,37	47	SSW	5	BQ
					Strong	Do.		.44	48	WSW	4	P
	,06	42		SE	Br.	Do.		,53	44	—	2	C
18							..	.58	42	—	2	BCW
	,34	41	,18					,68	46	WbS	2	OM
					Mod.			,75	46	NW	2	BC
	,50	40		NW	Br.	Clear.		,86	42	WNW	1	BCW
19							..	,89	41	—	3	BCW
	29,46	44						,92	45	WSW	3	BM
					Strong			29,90	51	—	5	BC
	,06	43		S	Gale.	Rain.		,84	45	—	4	C
20							..	,70	43	SbW	6	O
	,20	50	,26					,58	45	—	6	R
					Strong			,42	45	WbS	5	FR
	,27	41		NE	Br.	Haze.		,42	45	SW	4	C
21							..	,39	42	SSW	4	BC
	,30	43	,04					,41	46	WSW	3	BM
					Strong			,46	51	SE	2	CM
	,63	41		NE	Br.	Clear.		,48	42	NNW	3	F
22							..	,50	41	NW	3	CM
	,70	42						,57	45	WNW	2	OM
					Strong			,60	48	—	2	BCM
	,70	41		NE	Br.	Clear.		,62	43	W	2	CM

The continuation of Storms E—K will be found in
The Appendix Part II.

Ship WILLIAM MONEY, J. M. Buckley, Commander.
Mauritius to London.
(Communicated by F. W. Green, Esq.)

Time.	Course.	Wind.	
			Sunday, March 31st.
			Noon. Lat. 26.3 Long. 42.18 Midnight. Calm and clear.
			Monday, April 1st.
4 am.	NNE	S	am. Do. weather. 4. Light airs from the Southward. 8. Fine clear weather. Noon. Light airs and clear. Lat. 26.32 Long. 42.6 pm. Light breezes and a heavy swell. 8. Increasing breeze & cloudy, with a heavy swell on. Midt. Fine.
pm.		SW	
			Tuesday, April 2nd.
am.	NEbN		Daylight. Increasing breeze. Noon. Sudden shift of wind to NW; in all studsails, royals, topgallant sails and flying jib, and braced sharp up on port tack. Distance 149 knots. pm. Fresh breeze and squally weather, with passing showers. 6. Squally, with rain. Midnt. Squally, with rain; In 2nd reef of maintopsail, and 1st of mizen.
Noon.		NW	
pm.		WNW	
			Wednesday, April 3rd.
am.		NW	Daylight. In 3rd reef of topsails. 8. Squally. Noon. Still very squally. Lat. 30.24 Long. 39.25 pm. Fresh gales & cloudy, with rain at intervals; reefed main course. 6. Weather moderating, still very squally. 8. Out 3rd reef of topsails, and set the jib. Midnight. Squally with rain.
			Thursday, April 4th.
am.		SW	am. Sudden shift of wind to the SW. Noon. Lat. 31.33 Long. 38.20.

Bark FRANCES WALKER, D. F. Hay, Commander.
Calcutta to London.

Time.	Course.	Wind.	Bar.	Th.	
					Monday, April 1st.
Noon.		SW	30,35		Light breezes and calms. Noon. Lat. 26.17 Long. 41.19.
					Tuesday, April 2nd.
am.	NE	WSW			am. Fresh breeze, flying clouds. Noon. Fresh breeze, fine. Lat. 28.01 Long. 39.55 pm. Strong breeze, fine. 2. Sudden shift to NW. 4. Fresh gale and squalls, and a heavy NW sea, ship labouring heavily. 8. Do. weather. Midnt. Strong gale, hard squalls, and a heavy sea.
Noon.			30,10	77	
2 pm.		Vble to NW			
4		WNW			
8		NW			
					Wednesday, April 3rd.
7 am.		Vble.			am. Strong gale & hard squalls. 8. Heavy squalls and rain. Noon. Strong gales and squalls. Lat. 29.51 Long. 37.32 pm. Strong gale and high NW swell, ship labouring heavily and shipping much water. Midnt. Strong gale, cloudy & squally, lightning to NW.
8		N			
9		NNW			
Noon.			30,04	71	
pm.		NW			
					Thursday, April 4th.
2		Vble.			am. Strong gale, cloudy and squally. 2. Heavy squalls and rain. 6. More moderate. 8. Hard squalls and flying clouds. Noon. Strong gales and
3		N			
Noon.			30,13	72	

(Log of Frances Walker continued.)

Time.	Course.	Wind.	Bar.	Th.	
pm.	ENE				squalls, and high sea; ship labouring heavily and shipping much water. Position not given. [Lat. about 30.45 Long. 36.00.] pm. Strong gales & squalls, and a high sea, ship labouring heavily and shipping much water. 2. Very violent squall. 3. Hard gales and squalls and rain. 8. Strong gales and squalls at times. Midnt. More moderate, sea falling.
					Friday, April 5th.
am.	NE				am. Moderating. 2. Let two reefs out of main-topsail. 4. Light breeze, sea falling. 8. Light airs & fine. Noon. Breeze increasing. Lat. 31.39
Noon.		W	30,34	68	Long. 35.22.

Ship WILLIAM MONEY. J. M. Buckley, Commander.

Mauritius to London.

(Communicated by F. W. Green, Esq.)

Time.	Course.	Wind.	
			Wednesday, April 3rd.
Midt.	NEbN	NW	Noon. Lat. 30.24 Long. 39.25 Midnt. Squally with rain.
			Thursday, April 4th.
1 am.		SW	am. Sudden shift of wind to SW with small rain. 4. Squally
3		WNW	from NW again. 8. Fresh gales and very squally, in 3rd
10		N	reef of topsails and reefed fore course. Noon. Very squally,
pm.		NNW	with heavy rain. Lat. 31.33 Long. 38.20 pm. Fresh breeze
			with a heavy sea; out 2nd reef of mizen topsail, and set
			the jib. 2. Out 3rd reef of topsails, and reef of courses.
			9. Decreasing breeze; out 2nd reef of topsails, set topgallant
Midt.	ENE		sails and flying jib.
			Friday, April 5th.
pm.		WSW	am. Decreasing breeze and cloudy with a heavy swell from
2		Vble.	the NW. Daylight, Out all reefs and made all possible
			sail. Noon. Lat. 32.42 Long. 37.9.

Bark FRANCES WALKER, D. F. Hay, Commander.

Calcutta to London.

Time.	Course.	Wind.	Bar.	Th.	
					Wednesday, April 3rd.
					Noon. Lat. 29.51 Long. 37.32
					Thursday, April 4th.
2		Vble.			am. Strong gale, cloudy and squally. 2. Heavy
3		N			squalls and rain. 6. More moderate. 8. Hard
Noon.			30,13	72	squalls and flying clouds. Noon. Strong gales and
pm.	ENE				squalls, and high sea; ship labouring heavily and
					shipping much water. Position not given. [Lat.
					about 30.45 Long. 36.00.] pm. Strong gales &
					squalls, and a high sea, ship labouring heavily
					and shipping much water. 2. Very violent squall.
					3. Hard gales and squalls and rain. 8. Strong
					gales and squalls at times. Midt. More moderate,
					sea falling.
					Friday, April 5th.
am,	NE				am. Moderating. 2. Let two reefs out of maintopsail.
					4. Light breeze, sea falling. 8. [illegible]
					airs & fine. Noon. Breeze increasing. Lat. 31.39
Noon.		W	30,34	68	Long. 35.22.

Brig DOLPHIN, Jersey to Newfoundland.
(Communicated by C. Lequesne, Esq.)

Time.	Course.	Wind.	Bar	Th.	
					Thursday, April 4th.
Noon.			29.30	59	Noon. Lat. DR. 49.37 Obsd. 49.38 Long. DR. 22.33 Chron. 22.10.
					Friday, April 5th.
am.	NW	SSW			4 am. Pleasant breezes & cloudy weather. 10 am. Strong gale, wind veered round to the NW and blew a gale, took in sails to two close-reefed topsails. 11. Wore ship; still blowing strong gale and heavy head sea. Noon. Lat. DR. 49.26 Long. DR. 24.17 pm. Hard gale and squally, handed the foretopsail; ship straining very much and shipping much water. 10. Lay the ship to. Midt. Do. weather.
10		NW			
11	SW				
Noon.			29,00	58	
8	SSW				
Midt.	NW	W			
					Saturday, April 6th.
2 am.		Sly.			2 am. Rather more moderate, set the foretopsail & foresail. Noon. Hard gales, wind veered round to the North; shortened sail to close-reefed main topsail, and lay the ship to; heavy head sea. Lat. DR. 49.18 Long. DR. 25.16 pm. Heavy gale attended with a heavy sea; ship straining and shipping much water. 7 pm. Rather more moderate, set foretopsail; still a heavy sea. Midt. Continuation of weather.
8		ESE			
Noon.	SW	Nly.	28,70	58	
2 pm.		WNW			
4		WSW			
					Sunday, April 7th.
Noon.			29,30	56	Noon. Lat. DR. 48.12 Obsd. 47.57 Long. DR. 25.31 Chr. 24.24 (!)

Ship WILLIAM MONEY, J. M. Buckley, Commander.
Mauritius to London.

(Communicated by F. W. Green, Esq.)

Time. Course. Wind.

Thursday, April 4th.

Noon. Lat. 31.33 Long. 38.20 Midnt. Out 2nd reef topsails, set top-gallant sails and flying jib.

Friday, April 5th.

am. EbN WSW am. Decreasing breeze and cloudy, with a heavy swell from
3 NEbN Vble. NW. Daylight. Out all reefs and made all possible sail to
9 NNE studsails on port side. Noon. Increasing breeze and cloudy
pm. SW weather, all sail set. Lat. 32.42 Long. 37.9 pm. Increasing
breeze and cloudy weather; inclining to squalls. 3. Split
the lower studsail; in all studsails and royals, and mizen
4 WSW topgallant sail. 4. Increasing breeze with heavy squalls at
times. 6. Single-reefed the topsails. Midnt. Set main-royal
and mizen-topgallant sail.

Saturday, April 6th.

am. SW am. Strong breezes and cloudy. 4. In main-royal and fore
6 WSW and mizen-topgallant sails. Squally with small rain. Day-
light. In main-topgallant sail and 2nd reef of topsails, and
stowed the jib. Noon. Heavy squalls and clear. Lat. 35.30
pm. W Long. 36.2 pm. Brisk gales & thick hazy weather. 8. Very
squally. 10. Out one reef of topsails. Midnight. Decreasing
wind with very heavy sea.

Sunday, April 7th.

am. SW am. Do. weather. 2. Increasing breeze and very squally.
Daylight. Out all reefs and set topgallant sails, main royal
and flying jib. 10. Brisk gales and thick hazy weather.
Double-reefed the topsails. Noon. Do. weather. Lat. (about
34.00) Long. (about 37.00) pm. Brisk gales and thick
5 pm. NW mizzling rain and a heavy sea on. 5. Increasing breeze &
very squally; in 3rd reef of topsails and reefed the courses.
10. Out reef of mainsail. Midt. Strong gales but moderating.

Monday, April 8th.

am. WSW am. Do. weather. 4. Made all sail to single-reefed topsails
and topgallant sails; thick hazy weather. 8. Thick hazy
weather with small rain. Out 1st reef of foretopsail and set
foretopmast studsail on port side and flying jib. Noon. Lat.
(about 39.30) Long. (about 32.20.)

FLAMBOROUGH HEAD.

	I.	II.	IV.	V.	VI.
10	29,16	44	SW	5	BC
	,23	48	—	5	BCM
	,26	49	S	5	BCM
	,27	44	—	5	C
11	29,31	41	—	2	B
	,32	49	ESE	4	CM
	,34	47	—	5	OM
	,39	42	E	5	O
12	,43	42	—	5	FD
	,54	42	ENE	5	Fd
	,62	45	NNE	6	F
	,68	42	—	5	O
13	,69	39	N	5	FD
	,72	42	—	5	Fd
	29,69	46	NE	1	Om
	,67	42	SE	2	BC
14	,66	41	NE	4	O
	,74	45	—	2	CM
	29,73	48	SE	3	BC
	,68	41	—	4	B
15	,53	41	—	6	OM
	,36	45	—	5	F
	,11	45	—	6	FR
	,05	44	SSE	5	C
16	28,99	44	SW	5	BC
	,97	49	SSW	5	CM
	,88	49	S	6	R
	,88	45	—	5	P
17	,99	45	WNW	5	BC
	29,17	52	W	5	BCM
	,30	55	—	6	BCM
	,46	44	WSW	5	B
18	,53	42	—	3	BC
	,68	51	W	5	BCM
	,75	58	WNW	6	BC
	29,79	40	WSW	2	B
19	,77	45	SW	5	CM
	,70	50	—	5	OM
	,64	59	WSW	5	BCM
	29,59	48	SSW	3	CM
20	,30	46	—	5	FR
	,23	50	W	6	QPD
	,21	57	WNW	8	QBC
	,25	48	—	4	BC
21	,31	43	NNW	5	FD
	,42	47	N	6	BC
	,53	49	NNW	6	BC
	,59	44	—	6	QC
22	,62	43	—	8	O
	,66	42	N	9	FR
	,71	44	—	9	FD
	,74	42	—	9	QPD

Brig DOLPHIN, Jersey to Newfoundland.

(Communicated by C. Lequesne, Esq.)

Time.	Course.	Wind.	Bar.	Th.	
					Saturday, April 6th.
Noon.			28,70	58	Noon. Lat. 49.18 Long. 25.16.
					Sunday, April 7th:
2 am.		WNW			6 am. More moderate, made all possible sail;
8	W	NNW			still a heavy sea. Noon. Moderate breeze and
Noon.			29.30	56	cloudy weather, let 2nd reef out of the foretopsail.
2 pm.		Vble.			Lat. DR. 48.12 Obsd. 47.57 Long. DR. 25.31
10		NNW			Chr. 24.24 (!) pm. Squally and unsettled weather.
					Midnt. Do. do.
					Monday. April 8th.
					8 am. More moderate, set all sail possible. Noon.
10	WSW	W			Calm and fine. Lat. DR. 46.49 Obsd. 46.39
Noon.		Calm.	29.60	58	Long. DR. 27.19.

DUKE OF CORNWALL, from China to London.

(Communicated by Messrs. Heath & Palmer.)

Time.	Course.	Wind.	Bar.	Th.	
					Tuesday, 26th March.
am.	E by S½E	Vble from the NE			Moderate breeze; cloudy weather, with squalls and showers of rain. Middle part. Squally, with dark
6	SE by E				cloudy weather. Latter part. Light breezes.
Noon.			30,20	59	Clear weather throughout. Lat. Obs. 47,3. Long.
pm.	SE by E	NE by E			Chr. 14,05. 5. Light breezes. Clear weather. 6. Calms and clear. 8. Light baffling winds with clear weather. Midt. Calm and clear.
					Wednesday, 27th March.
6	E	SW			Light baffling airs & calms the first part. 6. Light
Noon			29,07	57	breezes. Cloudy. Noon. Moderate breezes. Cloudy.
3	E by S				Lat. Obs. 47,46. Long. Chr. 12,42.
7	E				pm. Moderate breezes, cloudy. 8. Increasing breezes, and cloudy. Midnt. Fresh breezes. Cloudy.
					Thursday, 28th March.
1	E	S			Fresh breezes. Dark. Cloudy. 5. Brisk breezes
5		Vble.			with threatening appearance. Noon. Strong gale.
Noon.			29,90	55	Cloudy. Lat. Obs. 48,50. Long. Chr. 9,29.
pm.	E by S	S			Strong gale. Cloudy weather. Short confused sea. Ship labouring heavily, and shipping much water.
3	E½S				At 3. Increasing gale. Heavy squalls.
5	E by S	Vble.			At 8. Brisk gale, with heavy squalls and a cross
9	E by S½S				sea. Ship labouring heavily and shipping heavy seas. Midt. Hove to under close-reefed main topsail, &c.
					Friday, 29th March.
am.	Up E by S Off E by N	S by E			Brisk gale, with heavy squalls and a high cross sea. Ship labouring violently, and shipping heavy seas over all.
11	Up SW by W Off W by S				Middle part. Tremendous heavy squalls, attended with a high sea. Shipped several heavy seas.
Noon.			29,64	50	Noon. Heavy gale, attended with smart squalls. Ship lying to under close-reefed maintop and main trysail. Lat. Obs. 49,46. Long. Chr. 7,46.
pm.	Up SW by W Off W by S				Continues brisk gale, with heavy squalls, and a very high confused sea. Ship lurching and labouring fearfully, and shipping heavy seas. At 8. Gale still blowing heavily, attended with
Midt.					rain and squalls. Midnight. Brisk gale, with rain and threatening appearance to the Westward.
					Saturday, March 30.
am.	Up ESE Off E by N	S by E			Continues brisk gale with rain, and a high sea. Ship lurching and labouring violently, and shipping heavy sea over all. 4. Same weather. 8. Heavy gale, with tremendous heavy squalls and
9	Up SW by W Off W by S				high sea. Ship labouring fearfully and shipping heavy seas. Ship lying to under close reefed main
Noon.			29,06	55	topsail. Noon. Heavy squalls. Split the main topsail. Lat. Acct. 50,25. Long. Acct. 8,42.

(Log of Duke of Cornwall continued)

Time.	Course.	Wind.	Bar.	Th.	
pm.	Up W by N Off NW by W	SSW			pm. Hard gale with heavy squalls and a high sea. Ship labouring fearfully and shipping heavy seas. At 1.30. Wind suddenly shifting to SW.
7	Up ESE Off E				4. More moderate, with a high confused sea. Ship rolling heavily and shipping heavy seas.
9		S			8. Wind hauling to Southward, with thick weather and drizzling rain.
Midnt.					Weather as above.
					Sunday, March 31st.
am.	Up SE by S Off SE				am. Strong gale with smart squalls and a high confused sea. Ship labouring heavily throughout. Set main and mizen topsails.
6	SE by S	SW			6. More moderate and the sea gone down considerably.
					8. Let out one reef of the topsails.
Noon.			29.43		Strong breezes with hazy weather and a high head sea; ship pitching heavily. Lat. Obs. 50.13 Long. Chr. 7.43.

R. M. West India Steam Packet SEVERN.

Fayal towards St. Thomas.

Time.	Course.	Wind.	Bar.	
				Tuesday, April 16th.
2	WbS	WbS	29,91	am. Fresh breeze.
4			,91	
6			,92	
8			,94	
10			,92	Noon. Lat. Acct. 35.56 Obsd. 35.56 Long. Acct.
Noon.			,92	32.36 Chr. 32.34.
2			,91	pm. Moderate breeze and cloudy.
4			,90	5. Considerable swell from Westward.
6			,90	7. Ship rolling much.
8			,90	
10			,90	
Midnt.			,90	Midt. Fresh breeze and fine.
				Wednesday, April 17th.
2		WSW	,90	3. NW swell, ship rolling heavily at times.
4			.91	
5			,91	
6			,91	7. Ship rolling heavily.
8			,93	
10			,93	
Noon.			,93	Lat. Acct. 34.28 Obsd. 34.26 Long. Acct. 34.41
2			,93	Fresh breeze and fine.
4			,94	5. NW swell, ship rolling very much.
6			,95	
8			,96	
10			,96	
Midnt.			,96	Midt. Fresh steady breeze and fine.
				Thursday, April 18th.
2		WSW	,96	am. Fresh breeze.
4			,97	
6			,98	
8			,99	7. Long swell from NW.
10			,99	9. Ship rolling much at times.
Noon.			30,00	Lat. Acct. 32.44 Obs. 32.43 Long. Acct. 36.39
2			,02	Chr. 36.37.
4			,02	5. NW swell, ship rolling heavily. Fresh breeze
6			.03	[and fine.
8			,04	
10			,05	
Midnt.			,05	
				Friday, April 19th.
2			,06	am. Moderate breeze and fine.
4		SSW	,06	
6			,07	
8			,08	
10			,09	Lat. Acct. 30.44 Obs. 30.42 Long. Acct. 39.29
Noon.			,09	Chr. 39.28. Moderate breeze and fine.

Wm. Strutt, Chief Officer.

APPENDIX Part II.

Authorities continued.

REIKIAVIZ.

In ICELAND, Lat. 64,0. Long. 21,35 W

(Communicated by Lieut. P. Schulze, Royal Danish Navy.)

Hours of Observation, 6 am., 10 am., 4 pm., 8 pm., 12 pm.

March 21,	am.	765,9
		4,9
	pm.	3,9
		3,8
		3,8
22,	am.	4,8
		8,5
	pm.	71,7
		4,7
		6,9
23,	am.	9,4
		780,2
	pm.	780,0
		79,8
		9,2
24,	am.	8,0
		7,8
	pm.	5,7
		5,9
		5,6
25,	am.	5,2
		5,0
	pm.	5,3
		5,4
		774,3
26,	am.	2,8
		3,9
	pm.	772,6
		2,4
		1,7
27,	am.	0,9
		0,1
	pm.	68,1
		7,8
		6,5
28,	am.	4,3
		3,2
	pm.	2,2
		1,3
		0,1
29,	am.	57,8
		6,6
	pm.	6,2
		2,4
		49,3
30,	am.	1,1
		38,9
	pm.	2,5
		3,0
		3,4
31,	am.	4,3
		5,7
	pm.	8,8
		41,1
		3,1
April 1,	am.	7,0
		7,4
	pm.	746,7
		746,2
		4,6
2,	am.	2,4
		1,7
	pm.	39,6
		7,7
		7,3
3,	am.	6,7
		6,9
	pm.	7,0
		7,6
		7,8
4,	am.	8,2
		8,2
	pm.	8,7
		9,6
		40,4
5,	am.	1,9
		1,6
	pm.	2,8
		4,0
		742,6
6,	am.	1,0
		1,1
	pm.	38,3
		5,9
		5,2
7,	am.	4,7
		5,5
	pm.	735,0
		4,4
		3,9
8,	am.	3,6
		5,1
	pm.	7,6
		9,8
		40,6
9,	am.	1,9
		3,6
	pm.	5,5
		8,1
		8,4
10,	am.	8,9
		9,6
	pm.	9,0
		9,5
		50.0
11,	am.	0,7
		0,9
	pm.	1,3
		2,8
		752,5
12,	am.	1,6
		1,7
	pm.	1,9
		2,0
		1,9
13,	am.	2,4
		2,9
	pm.	3,7
		4,6
		754,2
14,	am.	2,1
		0,9
	pm.	2,4
		4,2
		4,1
15,	am.	4,6
		4,7
	pm.	752,5
		2,0
		2,4

JERSEY.

Lat. 49,11 N Long. 2,6 W.

Atmospherical and Barometrical changes in the weather from 28th March to 6th April, 1850. observed by Captain Childers, Oakfields, St. Saviour.

The height of the thermometer in the open air is 200 feet above the mean sea level; the cistern of the Barometer is 25 feet above the same; the strength of the winds is noted by figures 0 to 20.

The thermometrical observations are taken at Oakfields, the barometrical in St. Helier's, the instrument having a bore 7-10ths of an inch in diameter.

Hours of Observation, 9 am, Noon, 3 pm, 6 pm, and 9 pm.

	Barometer.	Thermom. attached.	Thermom. open air.	Wind.	
				Direc.	Force.
Mar. 28	30.070	50	38	NE	1
	30.122	60	44	SE	1
	.112	58	43	—	2
	.110	57	37	—	3
	.112	56	35½	—	5
29	.040	48½	40	—	6
	.000	50	43	—	10
	29.950	52	44½	—	9
	.900	50	49	—	9
	.846	48½	39	—	8
30	.700	49	47	—	7
	.660	57	53	—	6
	.645	58	56	SW	6
	.630	58	54½	—	6
	.600	56½	52	—	5
31	.700	53	50	—	5
	.710	57	54	—	4
	.725	57	55	—	3
	,740	58	51	SE	3
	.740	54	48	—	3
Apr. 1	29.424	53½	51	—	8
	.380	55	54	—	10
	.280	55	54	—	10
	.240	56	50	—	10
	.210	56	48	—	10
Apr. 2	29.190	56½	49	SE	4
	.180	55½	54	—	5
	.180	57½	55	SW	6
	.214	57	50	—	7
	.280	57½	48	—	8
3	29.488	55	50	S	6
	.434	55	51	—	9
	.376	55	50	SW	9
	.310	55	49	—	10
	.290	55½	48	—	10
4	.280	50½	51	—	14
	.340	56	53	—	15
	.450	56½	52	—	12
	.525	56	49	—	10
	.615	56	48	W	11
5	.960	57½	49	—	11
	30.000	59½	50	—	10
	.000	59	50	NW	7
	.000	57	46	—	5
	.000	55½	41	Calm	1
6	29.810	54½	49	SW	7
	.800	57½	54½	S	5
	.820	58½	54	—	3
	.820	57½	50	—	2
	.830	56½	47	Calm	0

* SCARBOROUGH.

	Times of High and Low Water.	Rise above mean level.	Fall below mean level.	Total rise.	Total fall.
27 March.					
pm.	4.15	7,9			
	11.		9,6		17, 3
28	4.45	7,7		17,1	
	11.		8,6		16, 1
pm.	5.	8,3		16,9	
	11.15		9,6		17, 9
29	5.15	7,10		17,4	
	11.45		8,8		16, 4
pm.	5.45	8,		16,8	
30	.15		9,5		17, 5
	6.	7,4		16,9	
pm.	.15		8,5		15, 9
	6.30	6,7		15,2	
31	.45		7,9		14, 4
	6.30	5,9		15,6	
pm.	.45		8,3		14,
	6.45	6,5		14,8	
1	1.15		7,9		14, 2
	7.15	6,10		14,7	
pm.	1.15		7,		14, 5
	7.25	6.6		13,6	
2	1.45		8,9		15, 3
	7.45	6,		14,9	
pm.	2.		6,1		12, 1
	8.	5,		11,1	

† HARBURG.

	Times of High and Low Water.	High Water, Above Zero.	Low Water, Above Zero.	Difference.
27 March.				
pm.	5.30	7,		
28	1.		4,5	2, 7
	6.	7,3		
pm.	2.		4,3	3,
	6.15	7,		
29	2.15		4,3	2, 9
	6.30	7,3		
pm.	2.30		4,3	3,
	6.45	7,		
30	2.45		4,	3,
	7.	6,11		
pm.	3.		4,	2,11
	7.10	5,		
31	3.15		3,6	1, 6
	7.30	4,3		
pm.	3.15		3,6	, 9
	7.45	3,10		
1	4.		3,6	, 4
	7.45	4,3		
pm.	4.15		3,3	1.
	8.	4,3		
2	4.30		3,1	1, 2
	8.15	4,3		
pm.	4.50		3,1	1, 2
	8.30	4,2		

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* Transferred from the
"Diagram Shewing the Time and Height of High and Low Water at
SCARBOROUGH,
as traced by the Tide Guage, between Full Moon March 27th, 11,26 PM., and
Full Moon April 26th, 11,20 AM."
(Communicated by Mr. Appleyard, Harbour Master.)

N. B. Scarborough lies about 14 miles NNW from FLAMBOROUGH HEAD Lighthouse, of which the Reader will find the Meteorological Report at Page xxiv. of Part I. of the Appendix. It may be proper to mention that the coast on which this Harbour is situated lies towards the North and East, and the rise and fall of the tide will therefore be affected by winds from that direction. The quantities are in English Feet and Inches.

† Communicated by the Royal Hanoverian Inspector of Water-Works, BLOHM.
HARBURG (Lat. about 53,30 N. Long. 9,58 E.) is opposite Hamburg on the left, or Western bank of the river Elbe, which falls into the angle of the North Sea formed by Holland and Hanover on the South, and Denmark on the East.
The quantities are in German " Fuss & Zoll."

(Scarborough, (Continued.)

Times of High and Low Water.		Rise above mean level.	Fall below mean level.	Total rise.	Total fall.
3	2.10		5,3		10, 6
	8.15	5,1		10,4	
pm.	2.45		4,9		9,10
	8.45	4,11		9,8	
4	3.		3,6		8, 5
	9.	4,5		7,11	
pm.	3.30		3,4		7, 9
	10.15	4,6		7,10	
5	4.		1,6		6.
	10.15	4,4		5,10	
pm.	5.		2,7		6,11
	11.	3,6		6,1	
6	5.45		2,1		5, 7
	Noon	3,3		5,4	
pm.	6.30		3,5		6, 8
7	0.30	3,9		7,2	
	7.30		2,2		5,11
pm.	1.15	4,1		6,3	
	7.45		3,11		8,
8	2.	4,11		8,10	
	8.15		1,9		6, 8
pm.	2.	5,8		7,5	
	8.30		4,9		10, 5
9	2.30	5,3		10,	
	9.		5,		10, 6
pm.	2.45	5,5		10,5	
	9.15		6,4		11, 9
10	3.30	5,6		11,10	
	9.30		6,2		11, 8
pm.	3.30	6.		12,2	
	9.45		7,8		13, 8
11	4.	6,8		14,4	
	10.		6,6		13, 2
pm.	4.	7,6		14,	
	10.30		7,6		15.
12	4.30	7,5		14,11	
	10,30		7,2		14, 7
pm.	4.30	7,10		15,	
	10.		8,6		16, 4
13	4.45	7,4		15,10	
	11.		8,2		15, 6
pm.	5.	7,11		16,1	
	11.30		9,2		17, 1
14	5.30	7,4		16,6	
	11.30		8,4		15, 8
pm.	5.30	8.		16,4	
	Midnt.		8,9		16, 9

Harburg, (Continued.)

Times of High and Low Water.		High Water, Above Zero.	Low Water, Above Zero.	Difference.
3	5,		3,1	1, 1
	8.50	5,		
pm.	5.15		3,3	1, 9
	9.	5,6		
4	5.35		3,5	2, 1
	9.15	5,8		
pm.	6.		3,3	2, 5
	9.40	6,6		
5	6.15		3,5	3, 1
	10.	7,		
pm.	6.25		4,	3,
	10.30	6,6		
6	7.		3,10	2, 8
	11.	6,6		
pm.	7.30		3,5	3, 1
	11.20	5,2		
7	8.15		3,2	2,
pm.	.30	5,7		
	8.30		3,3	2, 4
8	1.15	5,6		
	9.		3,	2, 6
pm.	2.15	5,5		
	10.		3,	2, 5
9	3.30	4,8		
	Noon.		2,11	1, 9
pm.	4.	4,7		
10	.15		3,	1, 7
	4.15	5,		
pm.	.40		3,1	1,11
	4.30	5,10		
11	1.10		3,6	2, 4
	4.45	6,3		
pm.	1.30		3,8	2, 7
	5.	6,6		
12	1.45		3,11	2, 7
	5.10	6,9		
pm.	2.		3,11	2,10
	6.	6,9		
13	2.45		4,	2, 9
	6.15	7,		
pm.	3.15		4,	3,
	6.30	6,10		
14	3.30		4,2	2, 8
	6.45	7,		
pm.	3.45		4,4	2, 8
	7.	7,		
15	4.20		4,5	2, 7

Scarborough, (Continued.)

	Times of High and Low Water.	Rise above mean level.	Fall below mean level.	Total rise.	Total fall.
15	6.	7,5		16,4	
pm.	.30		8,3		15, 8
	6.	7,7		15,10	
16	.30		8,4		15,11
	6.40	6,11		15,3	
pm.	.30		7,9		14, 8
	6.45	7,8		15,5	
17	1.30		6,9		14, 5
	7.15	6,11		13,8	
pm.	1.45		7,1		14,
	7.30	6,8		13,9	
18	2.		6,6		13, 2
	8.15	5,10		12,4	
pm.	2.30		6,6		12, 2
	8.45	5,9		12,3	
19	3.		5,5		11, 2
	9.30	4,6		9,11	
pm.	3.45		6,3		10, 9
	10.	5,3		11,6	
20	4.30		3,4		8, 7
	10,30	5,		8,4	
pm.	5.15		4,10		9,10
	11.15	5,2		10,	
21	5,45		3,5		8, 7
pm.	0.10	5,6		8,11	
	6.45		5,6		11,
22	1.	5,3		8,9	
	7.15		4,3		9, 6
pm.	1.	5,6		9,9	
	7.45		6,8		12, 2
23	2.	5,11		12,7	
	8.15		5,6		11, 5
pm,	2.15	6,3		11,9	
	8.35		7,8		13,11
24	2.45	6,6		14,2	
	9.		6,9		12, 3
pm.	3.	6,7		13,4	
	9.20		9,1		15, 1
25	3.30	6,7		15,8	
	9.45		7,9		14, 4
pm.	3.45	7,		14,9	
	10.15		9,3		16, 3
26	4.15	7,		16,3	
	10,30		8,7		15, 7

Harburg, (Continued.)

	Times of High and Low Water.	High Water, Above Zero.	Low Water, Above Zero.	Difference.
	7.10	7,		
pm.	4.30		4,4	2, 8
	7.30	6,2		
16	4.40		4,4	1,10
	7.45	5,7		
pm.	4.50		4,3	1, 4
	8. 5	5,6		
17	4.15		4,3	1, 3
	8.20	6,9		
pm.	4.40		4,5	2, 4
	8.40	6,11		
18	5.20		4,6	2, 5
	9.30	7,3		
pm.	5.30		4,6	2, 9
	10.	7,3		
19	6.10		4,7	2. 8
	10.	7,1		
pm.	6.30		4,6	2, 7
	10.50	6,6		
20	7.15		4,5	2, 1
	11.30	6,1		
pm.	8.		4,6	1, 7
	12.	6,9		
21	8.30		4,6	2, 3
pm.	.30	6,9		
	8.50		4,6	2, 3
22	1.15	6,8		
	9. 5		4,6	2, 2
pm.	1.30	7,		
	10.		4,5	2, 7
23	2.	7,3		
	11.30		4,5	2,10
pm.	2.30	7,		
	Midt.		4,5	2, 7
24	3.30	6,11		
pm.	.30		4,5	2, 6
	4.	7,		
25	1.		4,5	2, 7
	4.15	7,		
pm.	1.		4,6	2, 6
	4.20	7,3		
26	1.15		4,6	2, 9
	4.55	6,9		
pm.	1.15		4,6	2, 3

Observatory Royal at BRUSSELS.
(Communicated by The Director Quetelet)

At 9 am. Noon. 3 pm. and 9 pm. the atmospheric pressure is noted (by the Barometer of Ernst,) and the temperature (by the Thermometer of Bunten,) also the appearance of the clouds (according to Howard), their direction and the clearness of the sky; 0 represents a sky quite overcast, 10 a sky perfectly clear; the intermediate numbers represent the corresponding degrees.

The observations at other hours are recorded by self-acting apparatus, viz. for the Barometer and Thermometer Kreils register, and for the wind Oslers Anemometer.

The observations of the Barometer are reduced to 0 of the Centigrade, and should be increasd by 0,46 to raise them to the Barometer of Fortin-Delcros of Paris, which gives the absolute pressure.

The temperature of the air is corrected for zero of the centesimal Thermometer.

For the force of the wind, 0 represents calm; the vane turns so readily that it moves with a very light air, but the Anemometer is only affected by a breeze sufficiently strong to be marked 4, and has never exceeded 20, during the most violent wind recorded here; consequently the numbers from 4 to 20 extend from such a breeze to a hurricane, the numbers opposite each hour represent the greatest force marked since the previous observation.

				Wind.		Clouds.		
Day.	Hour.	Barometer.	Thermometer.	Direction.	Force.	Direction.	Quantity.	
Mar.28	Midt.	761,3	—0,8	WNW	0			
29	am. 2	1,7	1,2	..	..			
	4	1,7	2,0	..	..			
	6	2,3	1,7	..	..			
	8	3,2	+0,9	..	..			
	9	3,38	3,4	NW	..	SE	7	Cirr-cum. hazy in the horizon.
	10	763,3	3,8	..	..			
	Noon.	3,28	5,7	SE	..	S	8	Cum.
	pm. 2	2,9	6,7	..	..			
	3	2,72	5,6	..	..	ESE	9	Cum.
	4	2,4	4,7	E	..			
	6	2,4	3,5	..	..			
	8	2,5	1,9	ENE	..			
	9	2,38	1,5	E	..			Clear.
	10	2,2	1,2	..	..			
	Midt.	2,2	0,8	..	..		10	
30	am. 2	1,8	—0,2	ENE	..			
	4	1,1	0,5	..	1			
	6	1,0	+0,7	..	2			
	8	1,1	2,0	E	3			
	9	0,83	2,8	..	4	E	9	Cirr. & Cirr.-Strat.
	10	0,6	4,3	..	..			
	Noon.	759,29	6,4	..	5	E	9	Cirr.
	pm. 2	8,1	7,4	..	[illegible]			
	3	7,61	7,7	..	3	E	0	Lightning.

Day.	Hour.	Barometer.	Thermometer.	Wind.		Clouds.		
				Direction.	Force.	Direction.	Quantity.	
	pm. 4	757,3	+6,8	..	3			
	6	7,8	5,3	..	..			
	8	7,2	3,8	..	..			
	9	7,06	3,5	..	4		4	Cloudy.
	10	7,0	2,4	..	3			
	Midt.	6,6	1,8	..	..			
31	am. 2	6,1	1,6	..	4			
	4	5,7	1,0	..	3			
	6	5,8	0,7	..	1			
	8	5,8	3,2	ESE	0			
	9	5,80	5,2	SE	..	E	7	Cirr.-cum.
	10	5,6	6,8	ESE	..			
	Noon.	5,29	10,0	E	..	E	10	Clear.
	pm. 2	4,9	11,7	ESE	..			
	3	4,57	11,4	..	..	E	9	Cirr.
	4	4,6	11,8	..	..			
	6	4,9	9,4	SE	..			
	8	4,9	7,4	ESE	..			
	9	5,0	6,6	SE	..			
	10	5,1	6,2	..	..			
	Midt.	754,7	6,2	..	..			
Apr. 1	am. 2	4,6	6,2	..	..			
	4	4,1	5,4	..	..			
	6	2,8	5,0	..	..			
	8	3,1	6,8	..	..			
	9	2,67	9,3	..	..	SE	9	Cirr. & Cirr.-strat.
	10	2,2	13,4	..	..			
	Noon.	0,55	14,3	ESE	..		5	Uniformly hazy.
	pm. 2	49,1	14,9	..	..			
	3	8,17	14,6	..	1		5	Hazy.
	4	7,7	14,3	..	0			
	6	6,6	12,2	..	..			
	8	5,9	10,5	..	..			
	9	5,34	10,1	..	3		0	Light clouds.
	10	5,0	9,5	..	0			
	Midt.	4,4	8,1	..	..			
2	am. 2	3,7	8,1	..	..			
	4	2,8	8,1	SE	..			
	6	2,4	9,0	SSE	1			
	8	2,0	10,2	SE	0			
	9	1,84	11,2	..	..	SW	0	Overcast, cloudy.
	10	1,7	12,2	..	..			
	Noon.	1,27	11,7	SSE	1	SSW	0	Overcast, cloudy.
	pm. 2	0,5	13,8	..	0			
	3	0,07	12,8	S	..	SSE		Overcast, small rain at intervals.
	4	39,6	12,3	..	..			

Day.	Hour.	Barometer.	Thermometer	Wind. Direction.	Wind. Force.	Clouds. Direction.	Clouds. Quantity.	
	6	39,7	11,5	S	0			
	8	40,5	10,7	..	1			
	9	0,54	10,2	..	0		0	Overcast, small rain at intervals.
	10	0,6	10,0	..	..			
	Midt.	0,8	9,9	..	1			
3	am. 2	1,7	8,8	SSW	..			
	4	2,5	8,4	..	..			
	6	3,5	8.2	..	..			
	8	4,2	9,0	..	..			
	9	4,77	9,4	..	..	SW	0	Cloudy, rain.
	10	5,4	10,7	..	..			
	Noon.	5,68	13,7	SW	3	W	3	Cum.
	pm. 2	5,8	14,5	..	4			
	3	5,81	14,9	..	3	WNW	2	Cirr-cum & Cirr-str Lightning.
	4	5,8	15,3	..	2			
	6	5,9	13,3	SSW	..			
	8	745,7	11,8	S	1			
	9	5,64	12,5	..	4		0	Overcast.
	10	5,0	12,1	..	..			
	Midt.	3,7	11,7	..	..			
4	am. 2	2,4	12,1	..	5			
	4	1,5	11,3	..	4			
	6	1,1	11,8	..	..			
	8	0,6	14,1	SSW	5			
	9	0,17	13,9	..	..	WSW	0	Lightning. Cum.-str
	10	39,9	13,3	..	7			
	Noon.	9,26	12,9	..	9	WSW	0	Overcast. Rain.
	pm. 2	9,0	13,8	..	7			
	3	9,04	13,5	SW	8	WSW	0	Overcast. Rain.
	4	9,2	13,8	..	..			
	6	9,7	12,5	..	..			
	8	41,5	12,5	..	12			
	9	1,98	10,9	..	9		0	Overcast.
	10	2,7	10,7	..	7			
	Midt.	3,5	10,4	..	9			
5	am. 2	4,7	10,7	..	7			
	4	5,4	10,0	..	6			
	6	6,9	9,4	..	..			
	8	8,1	9,9	..	5			
	9	8,85	9,8	..	6	W	0	Overcast, cloudy.
	10	9,5	10,2	..	4			
	Noon.	50,76	11,1	..	..	W	0	Overcast. Cum-str. little rain at 1 pm.
	pm. 2	1,7	10,5	..	..			
	3	2,44	10,7	WSW	..	W	0	Overcast. Cum-str.
	4	2,6	11,1	..	..			
	6	3,7	10,7	..	..			
	8	4,5	9,3	..	..			
	9	4,74	9,2	..	..		0	Overcast. ; a little rain.
	10	5,1	7,8	..	..			

Meteorological Report from EMDEN.

Lat. 53.20 Long. 7.8 E

Communicated by Dr. Prestel, through the Mercantile Deputation of this place.)

Hours of Observation 8 am. 2 pm. 11 pm.

Hour.	Barometer.	Thermom. Reaumur.	Wind.		Clouds.	State of the sky.
			Direct.	Force.		
Mar.26	27.11,5	0,8	N	2	8	Snow.
	.11,5		..	..	4	
	.11,7	0,2	..	..		
27	28. 0,3	0,3	W	..		Snow.
	. 1,0	1,7	..	..	8	
	. 0,7	0,8	..	..		
28	. 2,4	0,3	SW	..		Snow.
	. 1,9	0,4	NW	..		
	. 2,6	3,4	..	..		
29	. 3,3	1,5	W	..	8	
	. 4,3	4,3	NW	..		
	. 4,8	0,5	..	1		
30	. 5,3	0,7	NE	..		
	. 5,4	3,4	..	..	8	
	. 4,7	1,1	..	..		
31	27. 3,7	0,6	..	..		
	28. 3,4	3,4	SE	..		
	. 2,9	0,4	E	..		
Apr. 1	. 2,0	2,0	SbyE	..	4	
	. 0,9	6.9	SE	..	8	
	27.11,1	2,0	..	..	8	
2	. 9,0	3,1	NE	..	8	Rain.
	. 8,3	6.7	SE	..	8	
	. 7,2	5,7	SW	..	8	
3	. 6,4	8,5	..	..	2	
	. 8,2	9,3	..	..	4	
	, 8,0	7,1	..	..	8	
4	. 7,0	9,5	..	..	7	Rain.
	. 5,8	12,1	..	..	8	
	. 6,0	7,4	..	..	8	
5	. 7,1	7,9	..	..	8	
	. 9.5	13,3	..	..	8	
	.11,2	7,0	..	..	8	
6	.11,2	7,4	..	..		
	28. 0,5	12,0	..	..	8	
	27.11,0	7,8	..	..	8	
7	.11,5	8,0	..	..	8	Rain.
	28. 0,3	9,1	..	..	8	
	27.11,5	5,3				
8	28. 0,0	8,3	NE	1		
	27.10,4	14,8	E	..		
	. 9,7	8,7	..	..		

Emden (Continued.)

Hour.	Barometer	Thermom. Reaumur.	Wind.		Cloud.	State of the sky.
			Direct.	Force.		
9	27. 9,2	9,3	S	..	8	
	. 9.5	8,5	..	..	8	
	. 9,8	7,3	..	..	8	
10	.10,2	8,7	SE	..	8	
	. 9,7	9,2	SbyE	..	8	
	. 9,2	5,6	S		4	
11	. 9,6	5,1			8	
	.10,0	,10,5	SE	..	2	Rain.
	. 9,5	7,5	..	..	8	
12	.10,5	9,1	..	..	4	
	.10,7	12,5	..	..	4	Rain.
	.11,7	9,7	..	..		
13	28. 0,3	6,1	..	..	8	
	. 0,5	10,2	..	..	8	
	. 0,3	7,4	.	..	8	
14	. 0,5	9,7	E	..	8	
	. 0,5	10,3	..	..	8	
	. 0,4	5,3	..	..	8	
15	. 3,4	15,9	..	..	8	
	. 0,0	11,1	..	..	7	Rain.
	27. 9,0	9,3	W	..	8	
16	. 7,0	8,3	SW	..	8	
	. 7,8	11,8	..	..	8	Rain.
	. 8,3	7,0	..	..	8	
17	. 7,0	9,0	..	..	4	
	. 9,7	11,7	..	..	6	Rain.
	.11,3	6,7	..	..		
18	28. 0,7	9,6	..	..	5	
	. 1,6	11,4	..	..	6	Rain.
	. 2,5	6,3	..	..		
19	. 3,7	7,55	..	..		
	. 3,5	13,3	..	..	1	Rain.
	. 2,3	9,2	..	..	8	
20	27.11,0	9,25	..	2	8	
	.10,0	9,20	..	3	8	Rain.
	. 9,4	6,6	..	2		
21	. 9,7	8,4	..	1		
	.10,0	12,8	..	..		
	.10,11	11,4	..	..	8	
22	.11,0	7,8	..	..	8	
	28. 0,1	10,3	..	..	8	
	. 0,0	10,4	S	..	4	
23	. 1,0	7,0	..	..	8	
	. 1,0	10,8	..	..	6	
	. 0,8	6,9	..	..	1	
24	. 1,5	7,0	SbyE	..	8	
	. 2,2	11,0	SSE	..	6	
	. 3,2	5,5	..	..	4	

The following are the Meteorological instruments, the variations of which are registered by the observers at the Meteorological Stations in the

KINGDOM OF PRUSSIA.

The Barometer; The Wet-Bulb Thermometer; The Thermometer; The Rain-Guage, intended also for Snow and Hail; and the Vane. The readings of the Barometer are reduced to the freezing point; the temperatures are expressed in degrees of REAUMUR's scale.

0.—A perfect calm.

1.—A light breeze, which moves the branches of trees.

2.—A wind, which sometimes hinders walking a little, and causes more or less a slight rushing sound in the open air.

3.—A wind which causes strong boughs and entire trees to rock. makes walking against it difficult, during which a stronger rushing sound is heard, & which often blows in gusts, and carries light bodies into the air.

4.—A heavy gale or hurricane.

Hours of observations 6 am, 2 pm, and 10 pm. Bar. French Sc. 336, = 29.8414 (Communicated by "DOVE, Professor of Nat. Phil. in the University of Berlin," through Baron SCHLEINITZ, June 25, 1850.)

	CLEVE. Lat. 51.50 Long. 6.5						COLOGNE. Lat. 50,55 Long. 6,55				
	Barometer	Thermom.	Wind. Direct.	Wind. Force.	Rain.	Snow.	Barometer	Thermom.	Wind. Direct.	Wind. Force.	Rain.
Mar. 29	338,67	—0,7	N	1		0.37	338,08	—0,8	NW	1	
	9,06	5,2	—	1			8,55	5,4	—	1	
	9,15	0,5	NE	1			338,37	1,0	—	1	
30	9,27	—2,0	—	2		0.02	8,22	0,7	SE	1	
	338,41	3,9	SE	3			7,26	5,1	NE	1	
	8,55	—0,4	—	3			7,19	0,2	—	1	
31	7,35	—2,7	E	3			6.72	0,4	SE	1	
	6,87	4,6	S	4			6,44	5,4	SSE	2	
	6,56	—0,6	NE	2			6,02	1,3	—	2	
Apr. 1	4,54	0,2	S	2			4,95	0,0	—	2	
	3,71	8,0	—	2			3.63	7,5	—	1	
	2,33	4,3	—	1			1,14	4,3	—	2	
2	0,55	4,3	—	0	2.46		0,09	5,2	SW	1	2.8
	29,68	9,7	SW	2			29,72	6,7	—	1	
	9,81	7,4	S	1			9,35	5,9	—	1	
3	9,87	7,0	—	2	38.06		30,13	7,8	W	1	4.7
	31,14	9,6	W	3			328,83	10,4	SSW	1	
	1,17	8,3	—	1			31,11	8,7	SW	1	
4	329,42	8,7	S	3	18.47		329,82	9,2	—	1	11.9
	8,00	11,5	—	4			8,79	10,2	—	1	
	8,59	8,6	—	4			9,38	9,5	—	1	
5	30,56	7,6	W	4	31.00		31,48	9,3	NW	2	43.6
	2,83	6,5	NW	4			3,21	10,0	—	2	
	4,56	6,7	W	3			4.24	9,2	—	2	

The Thermometer is above 0, unless otherwise expressed, thus — .

Prussia, (Continued.)

	GUTERSTOK. Lat. 51,55 Long. 8,20					BROECKEN. Lat. 51,50 Long. 10,40						BERLIN. Lat. 52,31 Long. 13,22						
			Wind.						Wind.					Win l.				
	Barometer	Thermom.	Direct.	Force.	Rain.	Barometer		Thermom.	Direct.	Force.	Snow.	Barometer	Thermom.	Direct.	Force.	Rain.	Snow.	
Mar. 29	337,05	—3,0	W			293,91	Below Zero 0	6,90	NW	1	73.0	337,29	—3,3	W	1		23.2	Mar. 29
	7,27	3,3	NW			4,48		5,40	—	1		8,14	1,4	—	2			
	7,86	—0,2				4,90		7,50	N	1		8,99	—1,6	—	1			
30	8,10	—3,3	SE			5,53		8,70	—	1	73.4	9,51	—2,6	NW	1			30
	338,06	2,5	NW			5,70		4,80	NE	1		40,23	0,4	—	1			
	7,57	—1,5				295,21		6,60	E	2		0,49	—3,2	—	1			
31	6,80	—3,1				4,74		9,90	SE	2	72.8	340,36	—4,8	NE	1			31
	6,39	3,0	NW			4,55		5,70	S	1		39,68	2,3	E	1			
	5,80	—0,3				4,33		7,20	—	1		9,83	—2,0	—	1			
Apr. 1	4,73	—1,7	E	1		4,09		6,30	—	1	72.	8,83	—4,4	-	1			Apr. 1
	3,81	6,9	SE	2		3,29		4,20	—	1		7,73	3,5	—	1			
	2,10	3,0		2		2,25		4,50	—	1		6,54	—1,1	—	1			
2	0,29	3,2	SE	1	6.92	0,80		5,10	—	2	72.	5,20	—2,6	—	1			2
	29,48	7,2	—	1		0,01		2,40	—	1		3,49	3,0	—	1			
	8,81	4,5		1		89,70		1,20	—	2		2,24	1,9	SE	1			
3	8,95	6,4	SW	1	22.70	8,83		0,90	SW	3	70.2	1,44	1,9	—	1			3
	9,85	10,6	—	2		9,79		0,60	—	2		1,32	6,5	—	1			
	30,59	6,5		1		289,40		0,35	—	2		2,26	6,4	SSE	1			
4	329,13	7,8	SW	2	28.00	8,29		1,20	—	4	61.5	2,48	4,6	SW	1	3.4		4
	7,87	9,5	—	2		8,10		2,10	—	4		330,89	8,2	—	1			
	7,61	8,9		2		8,02		1,95	—	3		29,77	7,9	—	1			
5	9,24	7,2	SW	2	1.90	8,56		0,90	—	2	43.8	30,76	7,7	—	1	8.8		5
	31,22	7,6	—	2		9,29		0,90	—	2		2,18	7,7	—	1			
	3,04	6,5		2		288,76		0,80	—	2		3,51	7,5	—	1			

The Thermometer is above 0, unless otherwise expressed, thus — .

Prussia, (Continued.)

	STETTIN. Lat. 53,50 Long. 14,44						KONIGSBERG Lat. 54,42 Long. 20,29						ARYS Lat. 53,48 Long. 22,00					
	Barometer	Thermom.	Wind. Direct.	Wind. Force.	Rain.	Snow.	Barometer	Thermom.	Wind. Direct.	Wind. Force.	Rain.	Snow.	Barometer	Thermom.	Wind. Direct.	Wind. Force.	Snow.	
Mar. 29	337,72	—2,8	NNW	1			337,18	—1,8	SW	1		5.26	332,56	—3,8	W	2	9.2	Mar. 29
	9,05	0,1	NW	2			7,78	1,0	—	1			3,14	—0,7	—	2		
	40,11	—2,8	NNW	1			8,54	—2,8	N	1			3,60	—7,6	—	0-1		
30	0,68	—3,6	N	2			8,97	—4,2	NW	1		8.15	3,78	—6,3	SW	0	5.0	30
	1,61	—0,8	NNE	1			9,97	—2,2	N	1			4,79	—0,9	W	2		
	2,12	—3‘8	—	2			40,22	—5,0	NE	1			4,84	—3,9	NW	0-1		
31	341,84	—4,4	N	1		5.2	340,00	—5,0	N	1		3.94	334,75	—6,8	N	2	1.5	31
	1,49	0,2	E	1			9,39	—0,8	NW	1			4,26	—1,5	NW	2-3		
	1,10	—3,7	NE	1			8,13	—4.0	—	1			4.07	—6,3	—	1-2		
Apr. 1	0,60	—5,3	E	1			8,86	—5,6	W	1	0.25		4,05	—10,5	—	1		Apr. 1
	39,73	1,0	SE	2			8,64	—0,8	—	1			3,63	0,5	—	2		
	8,70	—2,6	ESE	1			8,59	—3,0	—	1			3,52	—5,1	—	1		
2	7,63	—4,3	—	1			7,83	—3,8	—	1	0.02		3,14	—5,5	—	0-1		2
	6,14	2,2	—	2			7,40	0,3	—	1			2,89	—1,2	—	0-1		
	4,72	—0,4	E	2			6,70	—3,8	—	1			2,39	—5,6	E	0-1		
3	3,38	—0,2	ESE	3	2.4		6,16	—4,4	E	1			0,79	—7,2	—	1		3
	3,07	7,8	SE	2			5,22	1,5	—	1			0,97	0,4	—	2		
	3,76	3,0	SSE	1			5,26	—1,1	NE	1			330,91	—2,4	—	2		
4	338,71	3,6	SW	1	19.0		334,80	—1,3	E	1			0,49	—2,3	—	2		4
	2,68	7,8	S	2			4,30	4,9	—	1			0,10	6,2	SE	0-1		
	1,42	5,6	SSW	2			3,44	2,4	—	1			29,96	2,4	E	0		
5	1,76	5,6	—	1	19.6		3,12	2,0	SE	1	4.15		9,47	1.8	—	0-1		5
	3,02	8,9	WSW	2			4,37	9,6	—	1			9,62	8,6	SE	1		
	4,67	6,8	SW	2			4,55	5,3	SW	1			30,55	4,8	—	1		

The Thermometer is above 0, unless otherwise expressed, thus — .

Extract from the Diary of Meteorological observations at HANOVER during the last 3 days of March, 1850. and in relation to a heavy Westerly Storm which took place during those days in the South of England, the North of France, and Central Germany.

In the first place it must be observed that the great violence of the wind did not reach this region, because at Noon of the 29th March it commenced at NNW, which the night after with a SSEly wind formed a *quieting contrary wind*, into which latter (SSE) the wind changed on the following days with considerable vigour.

In the meantime the atmospherical state in the West of Europe afforded during these days such an interesting epoch, that the publication of the same from the several parts of our Globe with their *comparison* together, in general, and especially in relation to the said storm might be of the greatest value for Meteorology.

During those days occurred, after the commencement of the full moon at noon of the 28th, that change of the northern high winds, which prevail in our regions during the greater part of March with cold and often frosty nights, into South-east winds, which brought with them on the 3rd of April a warmer Spring.

Hanover, June 30th, 1850. J. Dürr. M.D. Counsel of the Medical Board.

Mar.		Barom. Par. In.	Thermom. Reaum.	Wind.		Atmosphere & Weather.
28	2	28. 0,1	—3	WSW	Slight.	Clear. Dry cold.
	8	. 0,3	—1	WSW	Fresh.	Single Cumuli with wind increasing
	pm.2	. 0,8	+2½	WWN	Strong.	Thick electrical Cumuli with several strong falls of snow.
	8	. 1,7	—1½	WNW	Slight.	After 7 o'clock clear again.
	Midt.	. 2,1	—3	WNW	Slight.	Moonshine, nearly cloudless.
29	2	. 2,2	—3½	WNW	Slight.	Do. Later more clouds.
	8	. 2,9	+ ½	WNW	Strong.	Sun appearing & disappearing with large snow clouds ; NW till noon.
	pm.2	. 3,1	+2	NNW	Strong.	Clouds decreasing, Snow thawing.
	8	. 3,8	—1	NNW	Fresh.	Clear moon, small Cumuli NNW.
	11	. 4,0	—2½	NNW	Slight.	Ditto dry, cold.
30	2	. 4.1	—4	NNW	Contrary.	Ditto, and some hoar frost.
	5	. 4,3	—4½	SSE	Slight.	
	8	. 4,7	—4	SSEbSE	Strong.	Sunny, very clear cold air.
	11	. 4,9	—1	SE	Strong.	Some small Cumuli. NE.
	pm.2	28. 4,8	+1	SE	Fresh.	Ditto, dry, cold.
	8	. 4,4	—2½	SE	Slight.	Quite clear moon, cold.
	11	. 4,2	—3½	SE	Slight.	Ditto, some vale mist.
31	2	. 4,0	—4½	SE	Slight.	Ditto, strong hoar frost.
	5	. 4,0	—5	SEbSSE	Fresh.	Ditto.
	8	. 3,9	—4	SEbSSE	Vehement.	Clear sunny, some thin striped Cirri SSE.
	pm.2	. 3,2	—0	SEbSSE	Vehement.	Fine& clear but very dry cold windy.
	8	. 2,8	—2	SEbSSE	Vehement.	Clear moon, some striped Cirri.
	11	. 2,5	—3	SEbSSE	Strong.	Ditto.
Ap. 1	2	. 2,3	—4	SSE	Slight.	Ditto, some hoar frost.
	8	. 1,8	—2	SSEbSE	Slight.	Clear sun, and more flamy striped Cirri WSW.
	pm.2	. 0.9	+1½	SE	Fresh.	Ditto and from SW, more Strato-Cirri till evening.
	8	27.11,8	+0½	SE	Fresh.	Again Starlight, cool, windy.
	Midt.	.11,0	—2	SE	Slight.	Moonlight, some vale mist and hoar frost.

Meteorological observations made at the Observatory near

CHRISTIANIA,

from March 26 to April 6, 1850. (Lat. 59,54 43 N Long. 10,43 42 E Gr.)

Remarks.

Col. III. The *Barometer* (Siphon), made by Pistor in Berlin, has a tube of ½ inch diameter; its height over the level of the sea is 77,17 Norwegian feet (1 Norv 12,35 23 Engl. inches). Its scale is divided in French inches and lines, with 2 microscopes the height of the mercury can be read to 100 of a ligne, and the half of this can be guessed in the vernier. The above heights are reduced to the point of congelation. The mean height of 10 years observation is =335'''0611, and reduced to the level of the sea =336'''0982.

IV. The thermometers have the Reaumurian scale; they are fixed on the north, east, and west side of the observatory, and always the two of them, which are in shadow, are observed. They are corrected after the method of Bessel, and the mean of these two corrected readings are inscribed in the fourth column of the table.

V. The *direction of the wind* is observed on a wind-vane upon a high pole at some distance from the observatory. As the valley of Christiania is confined with mountains, except from the southside, the direction of the wind is thereby somewhat modified.

VI. The *force of the wind* is only judged by appearances, as we have no anemometer. It is noted by five numbers, 0, 1, 2, 3, 4, 5, whereof 0 signifies quite calm, or extremely feeble wind, 4 storm, and 5 hurricane.

VII. The *state of the sky.* The numbers signify, what portion of the visible hemisphere is covered by clouds. 0 signifies perfectly clear, 4 that the whole hemisphere is covered, 2 that the half is covered, and so on. The words which follow are the well-known terminology of Luke Howard of the different shape of clouds.

It is very remarkable, that upon the 3 days, when the great hurricane passed over the South of England, the 29th, 30th and 31st March, the air has been quite calm here in Christiania, as the force of the wind is noted constantly =0, only with 2 exceptions, when it is noted =0,5, and that the height of the barometer all these 3 days was considerably above the mean 335'''06; for instance the 30th at 9 am. =342'''39, accordingly 7'''33 over the usual mean; and the heaven perfectly clear.

Observatory at Christiania, the 3rd of July, 1850.

Chris, Hansteen,
Director of the observatory.

The Thermometer is below 0, unless otherwise distinguished.

	Hour.	Barometer	Thermom. Resumur.	Wind. Direct.	Wind. Force.	Clouds.	State of the sky.
Mar.28	7 am.	336,20	5,18	NE	0,	2	Cumulostr. & Cirrostr.
	9	6,286	3,16	NNE	0,	2	Do.
	2 pm.	6,37	+0,67	NW	1,	3	Do.
	4	6,32	0,53	N	0,4	2	Do.
	10	7,22	2.96	N	0,5	2	Do.
29	7 am	8,81	5,48	N	0,	1	Cumulostr.
	9	9,10	3,26	S	0,	0,5	Do.
	2 pm.	9,49	+1,97	S	0,5	3	Do.
	4	9,624	+0,67	SSW	0,	1	Do.
	10	40,75	5,69	—	—	0	Clear.
30	7 am.	2,306	7,29	N	0,	0	Do.
	9	2,39	5,22	N	0,	0	Do.
	2 pm.	342,25	0,23	SSW	0,	0	Do.
	4	1,99	+0,37	SW	0,	0	Do.
	10	1,94	5,48	—	—	0	Do.
31	7 am.	1,506	7,85	N	0,	0	Do.
	9	1,35	6.33	N	0,	0	Do.
	2 pm.	0,355	+0,27	SE	0,	0	Do.
	4	0,005	+0,67	SE	0,	0	Do.
	10	39,75	4,98	N	0,5	0	Do. Aurora borealis.
Ap.1	7 am.	9,53	4,17	NNE	0,	4	Cumulostr.
	9	9,496	1.34	NNE	0,	4	Do.
	2 pm.	8,914	2,40	SW	0,5	3	Do.
	4	8,54	+1,67	SW	0,	2.5	Cumulostr. & Cirrostr.
	10	8.38	2,65	—	—	1,5	Do. Trace of Aur. Bore.
2	7 am.	8,26	4,02	NE	1,	3.5	Cumulostratus.
	9	7,985	3,26	NE	1,5	3.5	Do.
	2 pm.	7,184	0,53	NE	1,	3,8	Do.
	4	6,86	0.63	ENE	0,5	3.0	Cumulostr. & Cirrostr.
	10	6,32	2,96	NE	0,5	3,5	Do.
3	7 am.	5,79	4,78	NE	2,	2	Cumulostr. & Cirrostr.
	9	5,695	4,07	NE	2,	3.5	Do.
	2 pm.	5,38	2,55	NE	2.	4	A little snow
	4	5,21	2,15	SE	0,	4	Cumulostr..
	10	5,31	3,77	NE	1,5	4	Do. A little snow.
4	7 am.	334,36	4,07	NE	2,	4	Snow.
	9	4,02	2,35	NE	2,	4	Covered.
	2 pm.	3,01	1,85	N	2,	4	Do.
	4	2,455	2,25	NNE	2,5	4	Do. Snow.
	10	1.896	2,76	NE	1,0	4	Do. do.
5	7 am.	0,01	2,25	N	2,	4	Snow.
	9	1,005	1,95	N	2,	4	Rain and snow.
	2 pm.	1,205	0,43	N	2,	4	Cumulostr. Nebulous.
	4	1,28	0,37	NNE	1,5	4	Do. do.
	10	1,77	0,57	NE	0.5	4	Do. do.
6	7 am.	1.53	1,77	NW	0,	4	Do,
	9	1,506	3,36	NNW	0,	4	Do.
	2 pm.	1,59	3,56	SW	0,3	4	Do.
	4	1,795	2,56	SW	0,3	4	Do.
	10	2,26	0,47	—	0.	4	Do.

Above 0.

Extracts from the Meteorological Diaries of the Royal Observatory at other Meteorological Stations in

BAVARIA.

The Barometer (Column I.) is expressed in Parisian lines and reduced to zero of Reaumur.

The Thermometer (Column II.) is expressed in degrees of Reaumur, and is above 0. unless otherwise distinguished, thus —.

The direction of the wind (Column III.)

The force of the wind (Column IV.) is distinguished by the figures attached, 0 representing a calm, and 4 the strongest wind.

A sky completely clear (Column V.) is represented by 0. and completely overcast by 4.

DILLINGEN.

Lat. 48,40 Long 10,30

Hours of observation 7 am, 1 pm, 7 pm.

I·	II.	III.	IV.	V.	
320.4	—6 0	NW	0	0	Mar. 28
.3	4.1	W	0	4	
.9	0.0	W	1	2	
2.5	—1.5	NW	0	2	29
.6	3.0	NW	1	1	
322.6	0.4	NE	1	0	
.5	—2.6	E	0	0	30
.4	2.2	E	0	0	
1.8	0.4	E	1	0	
.6	—3.4	E	1	1	31
.3	2·0	SE	2	0	
.0	0.0	E	1	1	
0.5	—3.2	SE	1	0	Apr. 1
19.9	4.8	SE	2	0	
8.8	2.0	E	2	1	
7.7	—1.0	E	0	2	2
6.3	8.1	E	0	3	
5.9	6.0	E	2	3	
6.7	3.1	SW	0	4	3
7.3	9.2	SW	0	4	
8.1	7.5	SW	0	4	
318.0	2.6	W	0	4	4
7.6	7.7	SW	1	4	
.0	7.0	SW	3	4	
8.1	6.8	W	2	3	5
.8	8 3	W	3	3	
20.0	5.6	W	1	1	
.6	3.5	W	1	0	6
.8	11.0	W	0	4	
319.8	8.4	W	0	4	

GUNZENHAUSEN.

Lat. 49,05 Long 10,45

Hours of observation 7 am, 2 pm, 9 pm.

	I.	II.	III.	IV.	V.
Mar. 28	317.5	– 5.0	W	1	1
	.5	3.7			1
	8.2	—0.6	NW	1	2
29	9.5	– 3.5	NW	1	3
	20.0	2.5			1
	319.5	—1.9	W	1	0
30	.9	—4.3	E	1	1
	.6	4.5			0
	.3	—1.6	E	2	0
31	.3	—2.5	E	2	0
	.0	3.5			0
	8.8	—1.1	E	2	0
Apr. 1	.2	—0.8	E	1	0
	7.3	7.3			0
	5.9	1.1	E	2	1
2	4.8	1.0	E	2	3
	3.5	11.2			3
	2.8	5.1	E	2	3
3	3.8	4.8	W	1	3
	4.6	10.3			2
	5.3	5.6	W	1	2
4	315.0	5.9	SW	2	4
	4.5	9.4			2
	.2	7.3	SW	2	4
5	.8	6.5	W	1	2
	5.7	8.9			2
	7.5	5.4	W	2	1
6	.5	5.5	W	1	0
	316.0	11.1			3
	7.3	7.6	SW	1	2

Bavaria, (Continued.)

	BAMBERG.				BURGLENGENFELD.				HOHENPEISSENBERG.					
	Lat. 50,00 Long. 11,00				Lat. 49,10 Long. 12,00									
	Hours of observation 7 am, 2 pm. 7 pm.				Hours of observation 6 am, Noon, 6 pm.				Hours of Observation 7 am, 2 pm, 9 pm.					
	I.	II.	III.	V.	I.	II.	III.	V.	I.	II.	III.	IV.	V.	
Mar. 28	324.8	—7.4	SW	1	322,5	—7,0	SE	3	299,3	—5,2	S	1	4	Mar. 28
	.9	2.0	S	0	,8	2,0	SE	1	,6	0,6	SSW	1	3	
	.9	0.0	NW	0	,7	0,0	SE	1	300,4	—4,0	WSW	2	4	
29	6.6	—5.3	WNW	1	4,3	—3,0	NW	1	1,4	—4,5	WNW	1	4	29
	7.0	1.6	NW	0	,8	1,7	NW	1	,9	—1,1	E	1 2	2	
	326.8	0.7	W	0	,5	0,0	NW	0	301,8	—3,1	NE	1 2	0	
30	7.3	—3.9	NW	0	5,0	—7,0	SE	0	,2	—3,6	ESE	1 2	4	30
	.1	1.2	NE	0	,1	0,7	N	0	,3	0,0	E	1	0 1	
	326.8	—1.1	ENE	0	324,5	—0,9	N	0	0,7	—3,3	E	2	0	
31	7.0	—3.9	E	0	,1	—5,0	SE	0	,1	—5,0	E	2	2	31
	326.3	2.0	E	0	,5	0,1	E	0	,3	—1,2	NE	2	2	
	6.7	0.5	E	0	,0	0,0	E	0	,4	—3,7	ENE	2	0	
Apr. 1	.7	—3.7	E	0	3,2	—6,0	E	0	299,6	0,3	E	1	4	Apr. 1
	4.3	5.4	SE	0	,0	2,3	SE	0	,1	2,4	E	1	4	
	2.7	1.9	SE	0	1,7	2,2	SE	0	7,9	0,5	ENE	2	0	
2	.1	—0.3	E	3	0,1	—2.0	E	2	,0	5,3	S	1	3	2
	0.6	8.7	SE	4	18,9	6,0	SE	1	6.0	8,1	E	1 2	3	
	19.7	5.2	SE	4	,2	5,0	SE	4	5,7	5,4	ESE	1 2	3	
3	20.3	3.5	E	4	,3	1,5	SW	2	7,0	2,9	W	1 2	4	3
	1.0	9 9	SW	4	9,1	6,3	W	2	,7	5,8	SSW	1 2	4	
	.6	8.1	W	2	,7	5,9	SE	2	8,5	4,6	SSW	1	4	
4	2.0	5.0	S	4	20,2	2,2	SE	2	298,5	4,4	SSW	1	3	4
	320.8	9.1	S	4	319,7	8,4	W	2	,2	4,8	S	2	3	
	19.7	7.7	SW	4	8,7	6,8	W	2	7,9	2,4	W	3	4	
5	21.2	6.4	SW	3	9,5	5,2	SW	2	8,3	3,8	SW	3	3	5
	3.1	9.9	NW	2	20,3	8,9	W	2	9.4	1,1	W	3	4	
	.4	7.6	NW	3	1,2	7,0	SW	2	300,6	1,0	W	2 3	4	
6	324.2	5.9	SW	2	2,4	3,5	SE	3	,4	3,2	SSW	1	0 1	6
	3.5	10.5	SW	3	322,2	10,0	W	2	299,6	8,6	SSW	1	3	
	.7	8.5	W	3	1,8	8,6	SW	2	300,2	5,4	SW	2	4	

MUNICH.

Lat. 48,48 Long. 11,34

March.	Hour.	Barometer		Thermom.	Wind.		Clouds.	
					Direct.	Force.	Direct.	Quant.
28	1	317,6	Below 0.	5,7				
	2	,6		6,3				
	3	,5		7,5				
	4	,4		7,4				
	5	,4		8,7				
	6	,3		8,2				
	7	,3		8,6				
	8	,4		5,6	S	0-1		
	9	,4		2,2				
	10	,4		0,0	SE	0-1		
	11	,3		0,4				
	Noon.	,4		0,4	E	0		2
	1	,3		1,4				
	2	,3		3,1	Calm			2-3
	3	,3		2,5				
	4	,4		1,7	SW	1	W	4
	5	,6		0,6				
	6	,7	Below 0.	0,3	NW	1	..	4
	7	8,0		0,7				
	8	,2		0,7				
	9	,3		1,2				
	10	,4		1,4				
	11	,5		1,4				
	Midnt.	,5		1,6				
29	1	,7		1,4				
	2	,9		1,6				
	3	,9		2,1				
	4	9,0		2,3				
	5	,1		2,1				
	6	,3		1,9				
	7	,3		1,7				
	8	,5		1,3	W	1	NW	4
	9	,6		0,6				
	10	,7		0,4	..	1-2	..	3
	11	,7		1,5				
	Noon.	,7		2,0	..	1	..	2-3
	1	,7		0,9				
	2	319,7		1,4	..	1	..	2-3
	3	,6		2,0				
	4	,5		2,1	..	1	..	1-2
	5	,5		1,5				
	6	,5		0,5	..	1		0
	7	,7	Below 0.	0,8				
	8	,8		1,6				
	9	,8		2,4				
	10	,8		3,3				
	11	,7		4,0				
	Midnt.	,6		4,3				

(Munich continued.)

March.	Hour.	Barometer		Thermom.	Wind.		Clouds.	
					Direct.	Force.	Direct.	Quant.
30	1	9,7	Below 0.	4,6				
	2	,5		5,6				
	3	,4		6,3				
	4	,4		6,5				
	5	,5		6,3				
	6	,5		6,3				
	7	,5		6,0				
	8	,5		3,4	SW	1		0
	9	,5		1,0				
	10	,5		0,2	„	1		0
	11	,5		1,0				
	Noon.	,4		1,9	E	1		0
	1	,4		2,2				
	2	,2		2,7	NE	1		0
	3	,1		2,7				
	4	,0		2.6	E	1		0
	5	8,8		2,0				
	6	,8		0,9	„	1-2		0
	7	,8	Below 0.	0,4				
	8	,9		1,3				
	9	,9		2,2				
	10	,8		2,3				
	11	,9		3,1				
	Midnt.	,8		3,4				
31	1	,7		4,0				
	2	,7		3,8				
	3	,7		4,2				
	4	,7		4,4				
	5	,7		4,3				
	6	,8		4,0				
	7	,8		4,1				
	8	,7		3,9	E	3	W	1
	9	,7		1,8				
	10	,7		0,7	„	3		1
	11	,6		0,1				
	Noon.	,6		1,0	„	3		0-1
	1	,5		1,5				
	2	,4		2,0	„	3-4		0-1
	3	,3		2,2				
	4	,2		2,0	„	3		0-1
	5	,3		1,1				
	6	,3	Below 0.	0,0	„	2		1
	7	,3		1,3				
	8	,4		1,9				1-2
	9	,4		2,5				
	10	,5		3,3				
	11	,3		2,9				
	Midnt.	,1		3,4				

(Munich continued.)

April.	Hour.	Barometer		Thermom.	Wind. Direct.	Wind. Force.	Clouds. Direct.	Clouds. Quant.
1	1	8,0	Below 0.	4,1				
	2	7,9		4,3				
	3	,8		4,3				
	4	,7		5,3				
	5	,6		5,6				
	6	,5		5,7				
	7	,7		4,7				
	8	,6		3,8	E	1-2		0
	9	,4		0,9				
	10	,5		1,0	..	0		0
	11	,3		2,7				
	Noon.	,0		3,8	..	3		0
	1	6,9		4,6				
	2	,6		5,1	..	4		0
	3	,5		5,2				
	4	,2		4,9	..	4		0
	5	,0		4,1				
	6	5,7		2,1	..	4		0
	7	,6		0,4				
	8	,5	Below 0.	0,5				
	9	,4		1,2				
	10	,1		0,8				
	11	,0		1,5				
	Midnt.	4,8		2,1				
2	1	,7		2,2				
	2	,6		2,4				
	3	,5		2,1				
	4	,3		2,1				
	5	,3		2,7				
	6	,2		2,2				
	7	,3		1,5				
	8	,3		0,4	E	1		3
	9	,1		1,6				
	10	,0		4,0	..	2	W	3
	11	3,8		6,2				
	Noon.	,5		8,5	..	2-3	..	3
	1	,1		9,4				
	2	,0		9,5	..	2		4
	3	2,9		8,2				
	4	3,0		8,1	..	1-2		4
	5	2,9		7,0				
	6	,8		5,6	..	1		4
	7	,7		3,1				
	8	,5		2,6				
	9	,5		2,7				
	10	,5		1,6				
	11	,6		2,0				
	Midnt.	,7		2,4				

(Munich continued.)

April.	Hour.	Barometer	Thermom.	Wind.		Clouds.	
				Direct.	Force.	Direct.	Quant.
3	1	2,7	2,1				
	2	,9	1,7				
	3	,9	2,1				
	4	3,1	2,5				
	5	,0	2,5				
	6	,5	3,1				
	7	,9	4,5				
	8	4,1	5,1	W	1	W	4
	9	,2	6,2				
	10	,3	7,0	SW	3	..	4
	11	,3	7,6				
	Noon.	,5	7,1	..	3	..	4
	1	,6	7,4				
	2	,7	8,6	..	4	..	4
	3	,7	9,0				
	4	,8	9,2	W	2	..	4
	5	,9	8,2				
	6	5,0	7,5	SW	1	..	3-4
	7	,3	5,9				
	8	,4	5,0				
	9	,5	5,0				
	10	,6	5,0				
	11	,7	4,9				
	Midnt.	,6	4,5				
4	1	,6	3,4				
	2	,6	2,7				
	3	,3	1,6				
	4	,4	1,0				
	5	,4	0,9				
	6	,4	1,6				
	7	315,5	3,6				
	8	,3	7,0	SE	1		2-3
	9	,3	8,2				
	10	,1	10,2	E	1		4
	11	,1	11,4				
	Noon.	,2	9,6	W	2-3		4
	1	,6	6,8				
	2	,5	6,5	..	3		4
	3	4,8	8,0				
	4	,5	7,9	SW	1-2		2-3
	5	,5	8,0				
	6	,4	7,2	..	1-2		3-4
	7	,3	6,3				
	8	,7	5,4				
	9	5,0	4,8				
	10	4,7	5,4				
	11	,9	5,6				
	Midnt.	,8	5,6				

Munich, (Continued.)

April.	Hour.	Barometer	Thermom.	Wind. Direct.	Wind. Force.	Clouds. Direct.	Clouds. Quant.
5	1	4,6	5,8				
	2	,7	6,3				
	3	,7	6,0				
	4	,8	5,9				
	5	5,1	6,0				
	6	,4	6,0				
	7	,4	6,6				
	8	,5	7,0	SW	4	W	3-4
	9	,6	8,0				
	10	,6	8,5	W	4	..	4
	11	,8	7,2				
	Noon.	,7	8,0	..	3-4	..	4
	1	6,3	4,3				
	2	,3	6,7	..	2-3	NW	2-3
	3	,3	7,7				
	4	,4	7,7	..	2	W	2-3
	5	,8	6,6				
	6	7,0	5,8	..	2	..	2
	7	,4	4,9				
	8	,7	4,5				
	9	,8	3,9				
	10	,8	3,9				
	11	,9	3,7				
	Midnt.	8,0	3,6				
6	1	,0	3,6				
	2	,0	3,3				
	3	,0	2,9				
	4	317,9	2,3				
	5	,8	1,9				
	6	,8	2,1				
	7	,8	3,9				
	8	,7	6,2	SW	1		0-1
	9	,6	7,7				
	10	,5	9,2	..	1	W	2
	11	,1	10,0				
	Noon.	,0	10,5	..	1	..	3-4
	1	6,8	11,0				
	2	,7	11,0	W	0-1	..	4
	3	,7	11,0				
	4	,5	11,0	NW	0	..	4
	5	,8	9,8				
	6	7,0	9,0	..	0	..	4
	7	,1	7,3				
	8	,3	6,8				
	9						
	10	7,2	5,7				
	11	,3	5,8				
	Midnt.	,4	5,1				

Meteorological Observations of the Physical Club at FRANKFORT on the MAINE. Lat. 50.10 Long. 8.30.

(Communicated by the President Dr. Lorey.)
Hours of Observation 9 am., 3 pm., 10 pm.

Col. I. Barometer reduced to 0. Reaumur.

Col. II. Thermometer Reaumur. N.B. Above 0 Zero, unless otherwise marked thus —.

Col. III: Direction of the wind.

Col. IV. Weather.

	I.	II.	III:	IV.
28	334,1	0,9	SE	w
Mar.	4,2	2,8	—	w
	5,2	0,5—		ht: ht.
29	6,7	1,6—	SE	t
	6,6	3,5	NNE	w
	6,6	0,8—		ht. ht.
30	6,9	0,6	E	ht.
	336,1	4,6	..	ht.
	6,0	1,0—	..	t
31	6,0	0,4	..	w
	5,1	4,7	SE	w
	5,1	0,0		ht.
1	4,2	0,6	E	ht. ht.
Apr.	2,4	7,7	..	ht.
	1,2	2,0	..	ht.
2	0,0	3,0	..	t
	29,1	5,8	..	t
	8,6	4,0		t
3	331,3	5,3	S	t
	29,7	11,0	WSW	w
	30,2	6,7		t
4	329,4	8,8	SSW	t
	7,6	11,8	..	t
	8,7	8,8		R
5	30,4	9,3	WSW	t
	1,4	12,4	W	w
	3,3	7,7	..	t
6	3,3	7,8	..	w
	332,8	11,0	WSW	t
	2,8	8,0		t
7	2,6	10,2	SW	w
	1,9	15,5	WSW	w
	1,7	9,0		t
8	331,0	10,0	E	w
	29,7	11,8	..	w
	9,1	16,0	..	ht.
9	8,7	12,6	—	w
	8,7	12,8	W	t
	9,2	6,7	SW	R
10	9,0	8,4	..	t
	8,4	10,0	..	t
	8,7	7,7		ht. ht.

(Frankfort on the Maine continued.)

	I.	II.	III.	IV.
11	9,3	9,6	SW	w
	9,3	7,0	..	w
	9,7	7,0		t
12	30,6	8,5	SSW	ht.
	0,5	13,6	WSW	t
	1,2	9,0		t
13	2,0	10,2	W	w
	2,2	11,2	S	R
	2,6	8,8	..	t
14	2,2	8,4	SW	R •
	2,1	10,2	..	w
	2,2	7,0		w
15	2,2	7,8	SSW	w
	0,9	12,6	S	w
	29,8	9,7		t
16	8,5	8,4	SW	R
	9,2	10,6	..	t
	30,1	7,5	..	ht. ht.
17	0,7	9,0	..	t
	0,7	12,4	..	w
	1,8	8,0	..	ht. ht.
18	3,2	8,8	..	w
	3,2	13,6	WNW	w
	4,1	9,7		w
19	6,3	10,4	N	w
	335,8	14,0	SW	w
	5,4	8,2		ht.
20	3,2	8,3	SSW	t
	1,3	10,3	SW	R
	0,1	8,0	..	w
21	29,5	8,1	..	t
	9,1	11,2	..	w
	9,9	8,0		w
22	31,8	8,6	N	w
	2,0	8,3	NW	t
	2,5	6,8		t
23	2,8	6,4	SW	t
	2,9	10,0	..	w
	3,0	6,2		w
24	3,3	7,6	WSW	t
	3,7	10,2	NW	w
	3,6	6,0		

• 12.45 Heavy thunder-storm with drizzle, after 2 pm. repeated lightning and thunder with light rain.

Observations taken at NYHOLM, (COPENHAGEN,) Lat. 55.40 Long. 12.30
(Communicated by Lieut. Schulze, Royal Danish Navy.)

Col. I. Barometer, reduced to 0 Reaumur, observed at 9 am. Noon, 4 pm.

Col. II. Thermometer in a Northern exposure 2½ feet above the ground; observed at 7 am. and 2 pm.; above 0 Reaumur unless distinguished thus, —.

Col. III. The direction of the wind observed 4 times a day.

	I.	II.	III.
28	335,82	2,3—	SW
	5.98		..
	6,20	1,3	S SW
			SW
29	8,81	3,3—	NW
	9,20		..
	40,30	0,3	N
			..
30	1,23	4,2—	NE
	2,42		..
	3,14	1,2	NNE
			E
31	342,20	5,2—	..
	2,22		Calm.
	1,12	1,2	..
			..
1	0,05	3,7—	..
	39,77		..
	9,30	2,4	SE
			SSE
2	7,42	0,6—	..
	7,08		SE
	6,28	0,9	..
			..
3	3,66	1,0—	..
	3,08		..
	3,19	0,0	ESE
			..
4	342,48	0,2	SE
	1,89		..
	1.00	1,7	..
			ESE
5	0,46	2,3	..
	0,81		..
	1,14	6,3	SSW
			SW
6	4,03	2,7	..
	4,28		..
	4,90	8,7	WSW
			..

(Observations at Nyholm continued.)

	I.	II.	III.
7	344,87	3,4	SW
	4,87		S
	4,18	8,4	SSW
			SW
8	6,89	2,2	SE
	347,05		..
	6,78	5,4	..
			ESE
9	6,43	2,3	SE
	6,49		ESE
	6,95	3,7	SE
			ESE
10	5,29	2,9	..
	5,01		..
	4,57	2,9	SE
			ESE
11	3,93	1,5	..
	4,00		SE
	4,25	2,1	ESE
			..
12	5,23	1,6	E
	5,52		..
	5,75	4,1	ENE
			...
13	6,30	2,3	E
	6,42		NNE
	6,57	4,9	..
			N
14	6,49	2,5	Calm.
	6,52		E
	6,71	6,7	ENE
			E
15	347,04	3,4	Calm.
	7,02		ESE
	6,78	5,8	SSE
			..
16	4,47	3,3	ESE
	3,87		SE
	3,33	10,1	..
			..
17	3,84	4,7	..
	4,15		S
	4,31	9,4	SSE
			..
18	6,00	3,9	S
	6,32		..
	6,80	12,2	SE
			Calm.

(Observations at Nyholm continued.)

	I.	II.	III.
19	8,78	5,2	..
	8,77		NW
	348,73	11,9	SE
			SW
20	6,36	6,5	..
	5,31		..
	4,39	11,3	S
			..
21	3,62	6,9	..
	3,82		SE
	4,05	10,3	SSE
			Calm.
22	4,78	7,9	..
	4,92		NE
	4,97	13,9	SSE
			ESE
23	6,38	6,4	..
	6,58		Calm.
	6,67	10,2	Calm.
			W
24	7,44	5,8	NE
	7,67		..
	7,94	13,4	ENE
			NE

I have inserted the two following Logs in this place as they give the weather in the Sound, and as they were near the same part of it throughout the whole period, it appeared more convenient than to divide them according to the Storms. F. P. B. M.

Abrtract of Log of Brig VULTURE, Capt. Wm, Harris.

From London to Copenhagen.
Resumed from Page xxxviii.
(Communicated by Messrs. Newman and Hunt.)

April 6th,	SW	SW	Thick fog. Fresh breeze, moderate at Midnight.
7th,	SW	S Calm	Thick fog. Koll Light E 7 miles. Moderate, then calm.
8th,	Calm SE	Calm SE	Foggy. At anchor part of the day. Calm.
9th,	ESE	SE	Cloudy. Strong current down. Fresh breeze. Noon. Brisk gale increased to strong gale.
10th,	SE	SE	Cloudy. Strong current down. Brisk gale.
11th,	SEbyE	SEbyE	Cloudy. Strong current. Brisk gale.
12th,	SE	SE	Thick rain. Strong current down. Fresh breeze.
13th,	NE	Calm.	Gloomy. Cronburg Castle NE 2 miles. Light airs.
14th,	NW	NNW	Thick rain. Received a Pilot off Elsinore. Light brs
15th,	ESE		Gloomy. Lt. airs. At 9 am. Anchored at Copenhagen

Abstract of Log of Brig SIREN, Capt. Isaac Catchpole.
From Falmouth to Stettin.

Resumed from Page xxxviii.

(Communicated by Messrs. Newman and Hunt.)

	A.M.	P.M.		Lat.	Long.E.
April 6th,	SbyE	WNW	Strong winds and foggy.	57,30	12,18
7th,	SW	S	Foggy. Koll Light SbyE 3 miles.		
8th,	S	S	Foggy. Working in Sound. Light and calm. Anchored at 5 pm.		
9th,	ESE	SE	Cloudy. Strong Westerly current and strong winds.		
10th,	SE	SEbyS	Strong Northerly current. Fresh gales: At anchor off Elsinore.		
11th,	SE	SE SEbyE	Thick and rain: 9 am. Made sail. Fresh gales. 4 pm. Brought up.		
12th,	SE	Calms.	Rain. Strong NNW current at the rate of three miles an hour. Light winds.		
13th,	SE	NW	Cloudy. Weighed, but wind so light and current strong that vessel would not steer. Light winds and calms.		
14th,	Calm.	SW	The same thing occurred. Calms.		
15th,	Calm.	S	Remained at anchor. Light winds.		
16th,	SSE	S	Thick. Remained at anchor in the Sound. Fresh breezes.		
17th,	S	SbyE	Thick. At anchor in the Sound. Light winds.		
18th,	S	S	Light winds and foggy.		
19th,	SSE	S	4 am. Made sail. 5 pm. Anchored off Heen Island. Light winds and calms.		
20th,	SSE	SSW	4 am. Made sail. Bore up for Copenhagen. Brought up off the Castle. Light winds, then strong winds.		
21st,	Calm.	Calm.	Rain.		
22nd,	SEbyE		Fine. 4 am. Made sail over the Grounds; at 7 am. Pilot left.		

[Having occasionally observed in the "Times," some very pertinent remarks relative to Meteorology signed H. P. I was induced to apply to the Editor of that Journal, who most obligingly put me into communication with the gentleman to whom I am indebted for the following observations. F. P. B. M.]

5, Bermondsey-square, London,
April 8th, 1851.

Sir,

At your request I have, as time would permit, roughly extracted some of the notes I have recorded in the months of March and April, 1850.

Believe me, Sir, your's obediently,
To F. P. B. Martin, Esq. HENRY PHILLIPS.

March 28	29,96	9 am. SW. Evening NE
29	30,06	9 am. NE.
	,03	6 pm. Temp. 43½
30	29,91	9 am. NE. Variable and squally. E. SE. NW
	,75	6 pm. Temp. 47. Wind squally from E
		11 pm. Temp. 46.
31	,68	9 am. E variable. Light rain at times this day.
April 1	,63	9 am. E variable.
	,45	¼ to 1 pm. Falling.
2	.24	9 am. S variable. E & W. Temp. this day up to 63 in the
	,22	10 pm. Temp. 52. [shade.
3	,38	9 am. SW. About 5 pm. the Barometer was inclining down at this time not more than 2-100ths since morning.
	,28	9 pm. Temp. 51. Has been stormy, wind now rough.
	,25	10 pm. Temp. 51. Very stormy with rain.
4	,07	9 am. Being a fall of 0.21 since 9 last night. SW
	,05	½ past 12 pm. Temp. 56.
	,08	4 pm.
	,28	9 pm.
5	,60	9 am. SW. Squally all night.
	,72	2 pm. Temp. 58.
	,77	6 pm. Temp. 56.
	,84	11 pm.
6	,72	9 am. SW
	,68	9 pm. Temp. 52.
7	,67	9 am. SW. Steady all day, Temp. in shade at 2 pm. 65.
8	,44	9 am. NE. Heavy showers in the afternoon.
9	,46	9 am. SE to SW. Has blown hard all night. Boisterous wind all day and heavy showers in the afternoon.
10	,44	9 am. S. variable. E. and W.
11	,39	Do. NE. [NE.
	,45	9 pm, Wind has been under current SW, clouds above from

(Observations taken by H. P. in London continued.)

12	,57	9 am. SW. Current of clouds above; adverse most of the day. 5 minutes to 1 pm. Thunder & lightning for about 10 minutes; heavy rain. "The Storm passed more in the East in a course from NW, rained till half-past 2. Tem. at 3 in the shade 59; rained again from half-past 4 till 8.
	,78	10 pm.
13	,84	9 am. S. variable. E& N. Black fog (London) wind shifted to NE in the afternoon.
	,79	6 pm.
	,75	9 pm.
14	,82	9 am. Wind uncertain.
	,82	10 pm.
15	,45	9 am. SE. 10 minutes before 12 (Noon) a heavy shower with squalls from SE & SW, lasted half an hour.
	,39	1 pm.
	,36	Quarter-past 4 pm. Very windy from SW. Tem, 57, electric current.
	,34	11 pm. Do. 49.
16	,21	9 am. S. variable. Has been a heavy rain during the night.
	,15	1 pm. Tem. 51. Has been rainy and windy all the morning from SE.
	,12	9 pm.
	,16	At quarter-past 10 pm. Tem. 50.
17	,48	9 am. SW.
	,69	10 pm. Tem. 51.
18	,85	9 am. SW.
	30,01	10 pm. Tem. 51½. N.B. Severe storms at Dublin this day.
19	,00	9 am. SW.
	29,90	6 pm: Tem. 55.
	.75	10 pm. Do. 54.
20	,61	9 am. SW stiff. Heavy rain. Hail storms between 12 and 1.
	,48	9 pm. Tem. 48.
21	,54	9 am. NE.
	,77	10 pm. Tem. 51. NW.

Meterological Observations taken at the Royal Observatory, GREENWICH, From March 29th, to April 21st, 1850.

The pressure of the Wind is given in lbs. on the square foot.

	Day.	Time.	Bar.	Ther.	Wind.	Force.
STORM *A*.	March 29	am. 2			Calm	0
	Good	4			..	0
	Friday.	6			..	0
		8			SSE	0
		10			..	0
		10,20	30,031	45.0		
		Noon.			SE	0
		pm. 2			..	0
		4			ESE	½
		6			..	1
		8			EbyS	0
		9	,009	34.5		
		10			..	0
		12			ESE	0
	Sat. 30,	am. 2			..	0
		4			..	0
		6			..	0
		8			..	0
		9	29,826	41.5		
		10			..	3
		Noon.	,776	49.0	..	3
		pm. 2			..	3
		3	,734	50.0		
		4			EbyS	3
		6			ENE	0
		8			ESE	2
		9	,676	46,1		
		10			..	2
		12			..	3
	Sun. 31,	am. 2			..	0
	Easter	4			ENE	0
	Sunday.	6			SE	0
		8			..	0
		10			..	0
		10,22	,646	44.8		
		Noon.			SSE	0
		pm. 2			SbyE	0
		4			S	0
		6			..	0
		7.30	,670	47.0		
		8			SSE	0
		10			..	0
		12			..	0

	Day.	Time.	Bar.	Ther.	Wind.	Force.
	April 1,	am. 2			..	0
	Monday.	4			..	0
		6			..	0
		8			..	0
STORM *B*.		9	29,528	50.0		
		10			SbyE	0
		Noon.	,470	54.0	SSW	0
		pm. 2			..	2
		3	,382	59.0		
		4			S	2
		6			SbyE	3
		8			SSW	0
		9	,220	52.5		
		10			S	2
		12			SW	0
	Tues. 2,	am. 2			..	0
		4			..	2
		6			..	0
		8			WSW	0
		9	,106	53,0		
		10			..	2
		Noon.	,098	56.4	SSW	0
		pm. 2			..	0
		3	,089	60.0		
		4			S	½
		6			SbyE	2
		8			SSW	0
		9	,106	50.5		
		10			S	0
		12			SW	0
	Wed. 3,	am. 2			..	1
		4			..	0
		6			..	0
		8			WSW	0
		9	,267	55.0		
		10			..	3
STORM *C*.		Noon.	29,286	56.0	SSW	3
		pm. 2			..	3
		3	,266	54.0		
		4			S	4
		6			..	4
		8			..	4
		9	,123	50.0		
		10			..	8
		12			SbyW	4
	Thurs. 4,	2			..	3
		4			..	3
		6			..	4
		8			..	5
		9	28,901	52.0		
		10			SSW	4
		Noon.	,890	56.0	SW	8

	Day.	Time.	Bar.	Ther.	Wind.	Force.
		pm. 2			..	7
		3	,932	54.0		
		4			..	1
		6			WSW	4
		8			..	7
		9	29,195	51.0		
		10			..	4
		12			..	4
	Fri. 5,	am. 2			..	6
		4			..	4
		6			..	4
		8			..	5
		9	,494	51.5		
		10			..	5
		Noon.	,620	55.5	..	3
		pm. 2			..	3
		3	,661	56.8		
		4			..	2
		6			WbyN	2
		8			WSW	0
STORM *D*,		9	29,757	45.9		
		10			..	0
		12			SW	0
	Sat. 6,	am. 2			SSW	0
		4			..	0
		6			S	0
		8			..	0
		9	,603	47.0		
		10			..	0
		Noon.	,494	52,5	SW	½
		pm. 2			..	0
		3	,576	56.0		
		4			..	0
		6			SSW	0
		8			SW	0
		9	,539	49.2		
		10			..	2
		12			..	2
	Sun. 7,	am. 2			..	2
		4			SSW	0
		6			SW	0
		8			SSW	0
		10			SW	0
STORM *E*,		10.20	29,608	55.0		
		Noon.			SSW	0
		pm: 2			..	0
		4			..	0
		6			SbyW	0
		8			..	0
		10	,523	50.0	..	0
		12			SE	0

Day.	Time.	Bar.	Ther.	Wind.	Force.
Mon. 8,	am. 2			E	0
	4			Calm	0
	6			..	0
	8			SE	0
	9	,319	54.9		
	10			..	0
	Noon.	,274	60.0	S	0
	pm. 2			..	4
	3	,259	59.0		
	4			..	0
	6			Calm	0
	8			..	0
	9	,253	49.2		
	10			SW	0
	12			..	0
Tues. 9,	am. 2			..	0
	4			SSW	3
	6			..	5
	8			..	5
	9	,341	49.0		
	10			SW	5
	Noon.	,265	51.5	..	5
	pm. 2			..	5
	3	,275	54.0		
	4			..	5
	6			..	3
	8			..	2
	9	,321	47.2		
	10			..	0
	12			..	0
Wed. 10,	am. 2			..	0
	4			..	0
	6			..	0
	8			..	0
	9	,348	51.5		
	10			..	0
	Noon.	29,328	56.0	SSW	½
	pm. 2			..	0
	3	,303	57.5		
	4			S	0
	6			SSE	0
	8			SE	0
	9	,293	44.2		
	10			EbyS	0
	12			..	0
Thur. 11,	am. 2			E	0
	4			EbyS	0
	6			ESE	0
	8			..	0
	9	,259	46.9		
	10			..	0
	Noon.	,254	55.2	..	0

STORM *F*.

	Day.	Time.	Bar.	Ther.	Wind.	Force.
		pm. 2			N	0
		3	,258	57.2		
		4			SbyW	0
		5			Calm	0
		6			..	0
		8			..	0
		9	,347	49.2		
		10			..	0
		12			..	0
	Fri. 12,	am. 2			..	0
		4			..	0
		6			..	0
		8			..	0
		9	,506	52.5		
		10			..	0
		Noon.	,541	53.0	ENE	0
		pm. 3			NE	0
		2	,568	52.5		
		4			S	0
		6			NW	0
		8			..	0
		9	,664	47.0		
		10			NNW	0
		12			..	0
	Sat. 13,	am. 2			..	0
		4			..	0
		6			..	0
		8			..	0
		9	,751	46.5		
		10			..	0
STORM *G*.		Noon.	29,737	51.0	NNE	0
		pm. 2			SSE	0
		3	,702	50.8		
		4			..	0
		6			..	0
		8			..	0
		9	,626	45.8		
		10			SE	0
		12			NW	0
	Sun. 14,	am, 2			NNW	0
		4			N	0
		6			NNW	0
		8			..	0
		10			N	0
		10.20	,762	46.8		
		Noon.			NNE	0
STORM *H*.		pm. 2			SSE	0
		4			..	0
		6			..	0
		8			..	0
		10			SE	0
		10.25	29,700	45.0		
		12			NW	0

STORM *I*.

Day.	Time.	Bar.	Ther.	Wind.	Force.
Mon. 15,	am. 2			NNW	0
	4			N	0
	6			NNW	0
	8			..	0
	9	.315	47.5		
	10			N	0
	Noon.	29,265	4.28	SW	4
	pm. 2			SbyW	3
	3	,221	55.0		
	4			..	4
	6			..	2
	8			..	0
	9	,193	49.5		
	10			SbyE	0
	12			S	0
Tues. 16,	am. 2			..	0
	4			SbyW	0
	6			S	2
	8			..	2
	9	,059	49.0		
	10			SbyE	5
	Noon.	,032	50.0	S	6
	pm. 2			..	4
	3	28,982	50.0		
	4			SbyW	4
	6			SSW	4
	8			..	5
	9	29,017	49.0		
	10			SW	5
	12			..	0
Wed. 17,	am. 2			..	0
	4			..	0
	6			WSW	0
	8			..	0
	9	,375	53.0		
	10			...	0
	Noon.	,420	56.5	SW	0
	pm. 2			..	0
	3	,461	57.4		
	4			..	0
	6			..	0
	8			SSW	0
	9	,579	49.0		
	10			..	0
	12			..	0
Thurs. 18,	am. 2			SW	0
	4			..	0
	6			..	0
	8			..	0
	9	,780	52,5		
	10			..	0
	Noon.	,805	55.5	NNW	0

	Day.	Time.	Bar.	Ther.	Wind.	Force.
STORM *K**.		pm. 2			WbyS	0
		3	29,843	62.0		
		4			..	0
		6			WSW	0
		8			...	0
		9	,902	60.0		
		10			SSW	0
		12			..	0
	Fri. 19,	am. 2			..	0
		4			..	0
		6			SbyW	0
		8			..	0
STORM *K*.		9	29,961	52.0		
		10			SSW	0
		Noon.	,861	53.5	SW	0
		pm. 2			..	0
		3	,818	52.0		
		4			..	2
		6			..	0
		8			..	2
		9	.708	52.0		
		10			..	3
		12			SSW	2
	Sat. 20,	am. 2			..	3
		4			SW	4
		6			WSW	3
		8			..	2
		9	,502	53.5		
		10			W	1
		Noon.	,462	56.0	SW	2
		pm. 2			SSW	2
		3	,421	51.0		
		4			SW	1
		6			SSE	0
		8			SW	0
		9	,376	45.5		
		10			SSW	0
		12			S	0
	Sun. 21,	am. 2			..	0
		4			Calm.	0
		6			..	0
		8			SbyW	0
		10			N	0
		10,30	.488	57.6		

G. B. AIRY,
Astronomer Royal.

I have reserved these Observations for the end of this Part of the Appendix, for the purpose of comparing them with those which I have inserted at the commence-

ment of the Memoir at Page 6, taken at Dorchester which is about 120 miles to the Westward of Greenwich.

It will be seen that I have laid down the tracks of Storms *A*, *C*, *F*, *G*, and *K*, as nearly due West and East.

I have supposed Storms *B*, *D*, *E*, *H*, *I*, to have travelled nearly Northward after they had reached this country.

The times of the commencement of each fall and rise of the respective Barometers are closely in accordance with the above supposition.

F. P. B. M.

Meteorological Journal H.M.S. COLUMBIA, Halifax, Nova Scotia.

(Communicated by their Lordships the Commissioners of the Admiralty.)

[If this document could be relied upon, its minute details would be extremely valuable, but there are some fluctuations in the Barometer so extremely startling, for instance a rise of half an inch in three hours, and in the next three hours a corresponding fall, and this occurring on more than one occasion with the Barometer marked as high as 30.76, that I have no certainty that other errors, though less palpable, and less easy of detection, may not have crept in. Ed.]

I. Barometer observed at 3 am. 6. 9. Noon. 3 pm, 6. 9. Midnight.
II. Thermometer (attached ?)
III. Do. (detached ?)
IV. Do. in open shed in Halifax Dockyard.
V. Force of wind. VI. Direction.

Date.	I.	II.	III.	IV.	V.	VI.	Remarks.
23 March	29,83	43	65		1	NNW	
	,88	40	60		2	..	
	,80	48	56	21	1	..	
Noon.	,80	70	67	31	2	..	
	,81	57	63	35	1	..	
	,74	50	57		2	WNW	
	,66	47	69		2	E	
Midt.	,99	47	57		2	SE	
24.	,76	43	60		5	NNW	
	,77	44	59		4	..	
	,77	45	52	26	7	..	A heavy fall of snow.
Noon.	,79	45	61	32	8	..	
	,63	46	58	33	4	..	
	,86	50	76		6	WNW	
	,97	75	72		5	..	
Midt.	,96	67	68		5	..	
25.	,34	52	70		4	NW	
	,41	49	65		4	W	
	,30	48	61	29	4	WNW	
Noon.	,34	46	64	35	5	..	
	,34	46	63	33	5	..	
	,34	57	78		4	..	
	,38	48	68		3	NW	
Midt.	,38	48	67		4	WNW	
26.	,39	46	68		5	..	
	,40	43	64		4	..	
	,47	47	49	27	5	NW	
Noon.	,51	46	51	32	5	..	
	,53	45	55	33	5	..	
	,69	47	69		4	WNW	
	,66	46	65		4	..	
Midt.	,70	45	65		4	..	
27.	,70	45	70		2	..	
	,73	45	56		2	..	
	,85	46	48	26	2	NNW	
Noon.	,86	46	68	34	2	NW	
	,83	48	70	38	1	NNW	
	,84	47	70		1	..	
	,89	48	60		1	..	
Midt.	,89	46	58		0	Calm.	

Date.		I.	II.	III.	IV.	V.	VI.	Remarks.
28.		29,83	46	65		2	SSE	
		,82	44	59		2	..	
		,80	58	56	29	2	E	
	Noon.	,84	74	53	32	4	E-S	
		,77	55	60	31	2	..	
		,69	51	69		4	..	
		,49	48	72		4	..	
	Midt.	,35	47	67		5	WNW	
29.		,35	44	72		7	NNW	
		(!) 30,89	45	63		8	..	
		29,50	48	65	29	5	..	
	Noon.	,55	48	63	32	5	..	
		,59	47	65	35	6	..	
		,64	48	58		7	..	
		,64	46	64		3	..	
	Midt.	,64	45	62		3	..	
30.		,72	47	61		3	..	
		,75	44	63		2	..	
		,82	48	58	32	3	..	
	Noon.	,91	69	61	40	3	..	
		30,02	52	50	40	3	..	
		,02	52	60		2	WNW	
		29,99	53	60		1	NNW	
	Midt.	,99	50	60		1	..	
31.		30,05	47	67		0	Calm.	
		,07	47	73		0	..	
		,09	50	60	33	3	NNW	
	Noon.	,09	50	52	42	1	NW	
		,08	50	59	42	5	NNW	
		,11	48	55		5	N-W	
		,22	49	61		2	NNW	
	Midt.	,25	47	57		2	..	
1. April		29,94	49	59		0	Calm.	
		,95	46	60		1	NNW	
		30,06	48	49	33	5	N	
	Noon.	,06	47	53	32	6	..	
		,76	45	58	34	0	Calm.	
		,23	45	57		2	NNW	
		,22	49	61		2	..	
	Midt.	,25	47	57		2	...	
2.		,76	45	58		0	Calm.	
		,23	45	57		2	NNW	
		,45	46	50	26	2	..	
	Noon.	,45	46	52	41	4	..	
		,24	51	59	42	2	..	
		,24	50	59		0	Calm.	
		,24	46	60		2	NNW	
	Midt.	,25	47	57		1	..	
3.		,25	46	60		1	..	
		,79	47	57		1	..	
		,19	48	66	33	1	SE	
	Noon.	,09	50	65	42	2	SW	
		,03	48	52	37	1	WNW	
		,00	54	53		2	ESE	
		29,95	54	58		1	WNW	
	Midt.	,86	52	58		0	Calm.	

	Date.	I.	II.	III.	IV.	V.	VI.	Remarks.
4.		29,37	46	60		2	NNW	
		,88	47	60		3	..	
		,84	53	56	35	4	NW	
	Noon.	,89	52	52	38	5	NNE	
		,71	49	52	36	3	N-E	
		,73	47	56		4	NE	
		,65	51	57		5	ENE	
	Midt.	,64	47	60		6	..	
5.		,63	47	59		5	NNW	
		,64	45	57		5	..	
		,79	47	59	30	5	NW	
	Noon.	,86	46	50	24	5	N	
		,89	47	60	35	4	NE	
		,93	48	59		4	NNE	
		30,06	47	60		0	Calm.	
	Midt.	,06	45	60		2	NNW	
6.		,02	45	60		2	..	
		29,98	45	60		0	Calm.	
		30,00	64	50	26	4	NE	
	Noon,	29,97	70	52	30	5	SE	
		,89	62	59	28	3	ESE	
		,82	56	67		4	NE	
		,70	50	53		2	NNE	
	Midt.	,75	48	56		4	E	
7.		,70	44	59		6	..	
		,75	45	62		6	N	
		,69	46	63	29	6	N-E	
	Noon.	,78	45	75	34	7	..	
		,69	58	60	34	4	N	
		,72	54	60		4	NW	
		,77	50	59		4	NNW	
	Midt.	,77	49	58		4	NW	
8.		,81	45	56		2	..	
		,85	46	59		2	NNW	
		,80	47	50	30	2	SE	
	Noon.	,80	47	56	41	4	..	
		,86	50	60	39	4	..	
		,86	56	61		4	SW	
		,86	56	61		4	..	
	Midt.	.82	48	58		2	..	
9.		,75	48	58		2	SE	
		,72	46	54		1	WSW	
		,71	50	60	36	2	WNW	
	Noon.	,67	49	53	40	4	W	
		,63	53	53	37	5	NW	
		,61	53	52		6	..	
		,99	57	55		6	NNE	
	Midt.	30,05	67	58		4	N	
10.		29,65	47	57		9	NNW	
		,66	45	58		8	WNW	
		,82	48	54	26	7	NNW	
	Noon.	,88	49	58	31	7	NW	
		,94	56	46	32	5	NNW	
		,99	57	55		6	..	
		30,05	67	58		4	N	
	Midt.	,09	58	57		5	NW	

	Date.	I.	II.	III:	IV.	V.	VI.	Remarks.
11.		30,11	52	60		5	NNW	
		,10	50	58		4	..	
		,11	48	57	28	4	..	
	Noon.	,11	30	49	33	3	NW-W	
		,10	47	60	34	4	NNW	
		, 7	49	60		2	..	
		,11	48	57		0	Calm.	
	Midt,	,11	45	60		0	..	
12.		,13	44	59		2	NNW	
		,11	45	60		1	N	Foggy ; a heavy fall of snow during the night.
		,15	45	50	25	1	SE	
	Noon.	,15	45	57	32	3	SSE	
		,11	48	53	34	3	..	
		,11	49	59		2	WSW	
		,12	46	59		0	Calm.	
	Midt.	,16	44	57		0	..	
13.		,15	43	58		1	NNW	
		,13	43	59		0	Calm.	
		,14	45	52	26	0	..	
	Noon.	,14	45	57	35	2	S	
		,15	60	58	37	5	SSE	
		,15	60	55		4	..	
		,05	47	58		4	..	
	Midt.	29,83	44	59		9	..	
14.		,65	42	59		10	..	
		,39	41	54		10	ESE	
		,26	44	52	31	5	S-W	
	Noon.	,31	45	57	36	6	SSW	
		,31	44	58	34	9	SW	Heavy snow squalls.
		,29	44	57		8	W-S	
		,30	45	60		5	W	
	Midt.	,32	44	58		3	WNW	
15.		,35	44	56		4	..	
		,29	64	50		2	WSW	
		.31	45	51	33	2	WNW	
	Noon.	,32	45	52	37	4	..	
		,48	49	55	36	5	NNW	
		,35	75	60		4	..	
		,62	64	58		4	..	
	Midt.	,62	50	60		7	..	
16.		,62	50	60		5	WNW	
		,64	47	52		6	NNW	
		,58	48	54	28	6	..	
	Noon.	,58	48	60	32	5	NW-N	
		,58	47	59	32	4	NNW	
		,58	48	60		4	..	
		,58	48	54		7	NW	
	Midt.	,58	45	56		9	NNW	

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In bringing this Appendix to a conclusion, I have to renew my acknowledgments to those gentlemen who, in many cases with considerable trouble to themselves, have supplied me with the data from which it is compiled; as I have generally added to the Logs and Observations the name of the person by whom each was communicated, it will be superfluous for me to repeat them here, but I cannot omit mentioning not merely the Owners of the respective vessels, but the Clerks in their several Offices who have entered most readily into my views, and where the information I needed was not within their own reach have put me in the way to obtain it.

These inquiries have also brought me into personal communication with a very intelligent class of men, whom I had often heard of, but never seen, the Masters and Mates of the Weekly Sailing Packets, generally known as the London and New York Liners, who combine with their skill as practical seamen all that shrewdness for which Brother Jonathan is so famous. I must do them the justice to say, that I invariably received a straightforward answer from them, and was received with much civility.

As the best acknowledgement in my power to make to all such of these gentlemen as are not within my reach, I beg to state, that a certain number of the copies of this Memoir will be made up for transmission by post, and that my publisher will transmit, or deliver on application, one to any person whose name occurs in these pages, and who may think the work worth his consideration.

JAN. 17th, 1852. F. P. B. M.

CONCORDIA
PARVAE RES
CRESCUNT.

APPLICATION

OF THE

ROTATORY THEORY

TO

NAVIGATION

IN THE

NORTH ATLANTIC.

CHAP. II.

In the preceding chapter instead of interrupting the continuity of the narrative by the introduction of irrelevant discussions, I have preferred to draw the attention of the readers to such points of interest as arose, by alluding to them in notes at the foot of the pages, reserving their consideration for this and the succeeding chapter. In the present one I propose to review certain points of practical seamanship, more immediately connected with Navigation in the N. Atlantic, and in the next I hope to interest the scientific observer, and to secure his co-operation, in my endeavour to elucidate certain anomalies which have hitherto baffled research.

In a work of this kind, in preparing which I have received assistance from persons of every shade of political opinion as I presume, though really it has been quite by accident that I have arrived in any case, if at all, at the knowledge of what those opinions might be, it would be quite improper I say in a work of this kind to embark in the discussion of any *political* question, or to enter upon the effect of "Navigation Laws" or whether British Shipping can or cannot compete successfully with Foreign. It is however a self-evident proposition that if A. and B. start on the same day, from the same port, on the same voyage, and A. shall perform it in 5, 10 or 20 days less than B, the expences of the "venture" will be proportionably diminished, and that consequently A. can afford to dispose of his cargo at a somewhat lower price than B, that is, to *under-sell* him; and if it should appear that the cause of this more speedy voyage was, that, on their meeting with unfavourable weather and contrary winds, A was guided by the directions laid down by Storm-Writers, and that B neglected them, I would then submit with much deference to the better judgement aud superior experience of those who have gone more deeply into first principles, that no parliamentary interposition, no committees of inquiries, no patronage of native industry can help those who will not help themselves.

This principle may be carried much farther than a mere question as to the delay of the arrival of the cargo at its destination.

I say nothing of the advantage of bringing it early to the market, though I imagine few will deny that many a ship has established a reputation for her Commander, and made a fortune for her Owners solely by quick passages.

Neither do I lay much stress on the loss of masts sails or rigging carried away by scudding too long or by vainly endeavouring to beat to windward against contrary gales, or of boats hen-coop, &c. &c. washed overboard; though of course these items, however trifling in themselves, diminish the "profits," as they must be paid for by somebody. I apply these remarks to the more important case of the loss of a whole cargo, or of the expensive delays consequent on a vessel's return to harbour for repairs, for which at a distant port, crowded with fellow-sufferers, she may probably be compelled to wait a considerable time.

I shall best illustrate this part of my subject by the two following Logs of the HENRY TANNER and the SEA PARK, which vessels on the 13th January, 1850, to the Southward of the Mauritius, encountered bad weather. The former laden with sugar was obliged to return to the Mauritius, and I am given to understand with the loss of a considerable portion of her cargo and with other damages which it is unnecessary to detail, but which must have been inconvenient and prejudicial to the interest of the owners.

The latter had on board about 200 troops from Calcutta to England, and had she been obliged to put back to Mauritius, or to wait for some time at the Cape to repair damages similar to those sustained by the Henry Tanner, the maintenance of so many men would have added an item which may be calculated by those who are versed in the DR. and CR. of mercantile statistics.

In addition to the above vessels H. M. Sloop COLUMBINE, from China to England, had been running for some days on the Southern edge of a Storm which I conclude to be the one under consideration, and having kept up with it as long as its track was Westward, outran it during the 12th and 13th when it began to curve to the Southward, and on the 14th was on its Western side in its right-hand hemisphere.

At this time the Ship CLIFTON from London to Sydney, was sailing on a course parallel to the Columbine's but in a contrary direction about 12 degrees to the Southward, and was crossing the front of the Storm, the Columbine being to the Westward.

The WILLIAM MONEY from the Mauritius to the Cape of Good Hope had left her port in advance of the Cyclone, and lay to the North-westward of it; her course therefore carried her away from the danger the further she went. I have added these Logs with the object of showing the extent and position of the Storm from the 12th to the 17th.

The Columbine kept on in advance of the Storm, having been able to outrun it during the time whilst its onward movement was retarded by recurving to the Southward.

The Clifton gave it a wide berth by keeping on the port tack when the wind headed on the 15th, and as the Barometer rose running away from it on the 16th and 17th.

The Sea Park waited quietly till her enemy had got out of the way, on the principle that in such a case "Discretion is the better part of valour."

The Henry Tanner went fearlessly into danger, and paid the penalty of her rashness: in her case I find no mention of a Barometer; Are we to explain this silence on such an important point by the supposition that she had not one on board? or that it was not thought worth while to observe and record its fluctuations? The result however was that she was obliged to abandon her intended voyage, and make the best of her way to the Mauritius.

H. M. COLUMBINE, Capt. J. C. Dalrymple Hay, R.N.
China to Plymouth.

Time.	Bar.	Symp.	Th.	Wind.	Force.	Weather.	
Thursday, January 3rd.							
							Steady SE trade. Noon. Lat. 21.33 Long. 74.35
Friday, January 4th.							
2	29,92	30,44	79	SE	6	BCQ	This is a good specimen of a
5	,94	,44	79				day in the SE trades (the glass
8	,92	,45	80	EbyS		CU	begins to fall, the Sympeisometer
11	,92	,44	80		7	Q	Noon, —— 22.23 —— 71. 8
2	,93	,28	79		6	BC	I mean.) Where I have marked
5	,92	,30	80		5		a cross* the observations are not
8	,84	,28	78				to be depended on.
11	,84	,30	78				
Saturday, January 5th.							
2	,94	,25	79	EbyS	5	BC	
5	,80	,22	78	E			
8	,80	,22	78				
11	,80	,22	79	ENE	6	CU	Noon. —— 23.10 —— 68.20
2	,80	,24	79	NE	5	QG	4.15 Wore to avoid a squall a-
5	,75	,24	80	Var E	4	BC	head, to W. 6.15 Tacked again.
8	,80	,24	81	NE		CU	8.45 Did the same thing.
11	,80	,20	80				

(Log of Columbiue continued.)

Time.	Bar.	Symp.	Th.	Wind.	Force.	Weather.	
Sunday, January 6th.							
2	29,80	30,18	78	NNE	5	bc	A confused NE swell, very un-
5	,72	,14	78	Nly		bcu	settled appearance.
8	,76	,20	78				Noon. Lat. 24. 1 Long. 65.40
11	,75	,18	80				2. Overcast, with light bluish
2	,76	,14	80	NNW	5	cug	clouds and very unpleasant glare.
5	,70	,20	80			qup	6. Heavy banks to NW.
8	,73	,12	80	NWbyW		qu	7.15 Wore ship to stand from the
11	,74	,22*	80				bad weather we were running into.
Monday, January 7th.							
2	,76	29,98	81	NNW	2	qcg	1 am. Taken aback.
				SWbyS		r	
5	,71	30,12	78	SbyW			5. Weather fine, (trade again,)
8	,73	,20	79		5	bc	swell from SW.
11	,78	,26	79	S	6	c	Noon. —— 24.26 —— 63.28
2	,76	,26	81	SbyE	6	bc	
5	,77	,14	79	SSE			
8	,80	,20	79	SE			8. Very heavy Southerly swell.
11	,80	,20	78				
Tuesday, January 8th.							
2	,76	,24	80	SE	6	bcv	
5	,82	,22	79	ESE			5 am. Do. do. 10.30 Saw the
8	,79	,24	82	E	5	bc	Bark Lord J. Russell with loss of
11	,80	,16	82				main & mizen mast; Mauritius
2	,78	,13	82				NNW 334 miles.
5	,75	,14	80			cu	Noon. —— 25.13 —— 60. 7
8	,76	,20	80			bc	Very heavy SE swell, (thus you
11	.76	,18	79				see the swell indicating beautifully the position of late breeze.
Wednesday, January 9th.							
2	,70	,12	79	EbyS	5	bc	Heavy swell from E.
5	,65	,12	79				
8	,66	,10	80	ENE		cu	
11	,68	,04	80	NE-NNE			Noon. —— 25.58 —— 56.58
2	,65	,03	80			cug	
5	,62	,00	80				Weather very unsettled.
8	,68	,06	80			bcm	A burr round the stars.
11	,70	,00	80				
Thursday, January 10th.							
2	,70	,06	79	NNE	5		A very heavy Wly swell.
5	,69	,00	80				
8	,70	,08	80				
11	,72	,04	80	NE	6	bcm	Noon. —— 26.26 —— 53.40
2	,68	,02	80			bcg	
5	.68	,04	79				5 pm. Very heavy SW swell, evi-
8	,61	,10	80	NEbyE			dently passing over the track of
11	,70	,04	82	NE	5	bcm	Cyclone.
Friday, January 11th.							
2	,70	,08	80	E	7	bcqg	Heavy swell Easterly.

(Log of Columbine continued.)

Time.	Bar.	Symp.	Th.	Wind:	Force	.Weather.	
5	29,73	30,11	80		8	P	
8	,65	,08	80				
11	,60	,02	82				Noon. Lat. 26.51 Long. 50.25
2	,53	29,97	82				A heavy Easterly sea.
5	,50	,90	83		7		
8	,54	,92	83				
11	,56	,98	82				
Saturday, January 12th.							
2	,50	,99	81	ESE		QCMP	Sea more moderate,
5	,44	,98	82				
8	,44	,86	82	SEbyS		R	
11	,40	,88	79				Noon. —— 27.39 —— 46.51
2	,40	,90	80	SE	8	QCMR	
5	,42	,82	81				
8	,40	,84	82	SSE	9	Q	
11	,45	,86	79				
Sunday, January 13th.							
2	,40	,79	80	SbyE	9	QC	Battened down,
5	,29	,72	80			L	
8	,33	,68	80			QCP	
11	,33	,68	82			QPMB	Noon. —— 27.38 —— 45.25
2	,33	,68	82	SbyW			3. Glasses rising; ☽ changed at
5	,33	,82	80	SSW			this time.
8	,44	,86	79		8	QBCP	
11	,48	,88	80				
Monday, January 14th.							
2	,58	,90	80	SWbyS	7	BCQP	Weather fine.
5	,58	,89	79			BC	
8	,67	30,12	79		6		
11	,71	,06	82				Noon. —— 27.28 —— 43.41
2	,71	,12	81	SSW	4	BC	
5	,73	,14	80				
8	,72	,20	79	S			
11	,70	,20	80				

Thos. Kerr, Acting Master.

Ship WILLIAM MONEY, J. M. Buckley, Commander.

Mauritius to Cape of Good Hope.

(Communicated by F. W. Green, Esq.)

Time.	Course.	Wind.	
Thursday, January 3rd.			
pm.		EbN	1.30 pm. Hove the port anchor up and proceeded to sea. Moderate breeze and cloudy. Midt. Increasing breeze and clear weather.
Friday, January 4th.			
am.	SSW	NNE	4 am. Steady breeze and fine weather. Noon. Moderate and cloudy. Lat. 21.12 Long. 56.04 pm. Light winds and pass-
pm.	SWbW	NW	

(Log of William Money continued)

Time.	Course.	Wind.	
			Light airs and cloudy with a heavy swell on. Midt. Light
			winds and variable.
			Saturday, January 5th.
			4 am. Increasing breeze and fine weather. 8. Squally with
			rain, 10. Light airs inclining to calms, with cloudy weather.
pm.	WSW	Vble E	Noon. Do. weather. Lat. 22.32 Long. 55.28 pm. Light airs
			and fine. Variable from Eastward, all possible sail set on a
			wind. Midt. Light airs and clear.
			Sunday, January 6th.
8am.		SEbS	4 am. Increasing breeze and cloudy weather. 8. Light airs
			and fine. Noon. Fine clear weather, Lat. 23.4 Long. 54.59
pm.		SSE	pm. Light breezes and fine. 4. Increasing and cloudy. 8.
			Increasing strong breeze and fine. Midnight. Strong breezes
			and fine.
			Monday, January 7th.
am.		SE	4. Steady breeze and fine. 8. Increasing do. and cloudy.
pm.		SbE	Noon. Do. weather. Lat. 24.10 Long. 53.4. pm. Strong
Midt.		E	winds and cloudy. 8. Increasing breeze and cloudy. Midt.
			Strong breeze and squally.
			Tuesday, January 8th.
am.		SE	4 am. Strong breeze and cloudy. 8. Decreasing breeze and
6		ESE	fine. 10. In port studsails and braced the yards forward on
11		NE	starboard tack. Noon. Strong breezes and thick rainy wea-
pm.		EbN	ther. Lat. 25.47 Long. 50.22 pm. Strong winds and un-
			settled weather and rain. Midnt. Decreasing breeze with
			threatening appearance to the NW.
			Wednesday, January 9th.
1am.	SSW	W	am. Sudden shift of wind to the Westward, with heavy rain;
			in all studsails. 2.30 Wind veering from NW to E. 3.
3.30		E	Squally with constant heavy rain. 3.30 Steady breeze from
			E. Daylight. Settled weather, set royals and all starboard
			studsails. 9 am. Wind veering to NW and squally; in all
			studsails and fore and mizen royals. 10. Reefed the mizen.
pm.	WbS	Vble.	Noon. Set royals. Lat. 26.12 Long. 49.4. pm. Unsettled
5		NNE	weather with light airs. 4. Increasing breeze and cloudy
			weather; in all studding sails and braced up on the port
			tack. 6. Squally; in royals and main-topgallant studsail.
			Midnight. Light winds and cloudy.
			Thursday, January 10th.
am.		Vble.	2.30 Light variable winds, with a confused sea running.
			Daylight. Squally with heavy rain. Noon. Weather fine;
11		ENE	set starboard studsails. Lat. 27.00 Long. 48.12 pm. Light
pm.		Vble.	and cloudy, with squalls of rain. Midt. Strong breeze and
			cloudy.
			Friday, January 11th
am.	W	E	am. Fine clear weather. 4. Strong breeze and fine. 8. In-
4		ESE	creasing breezes. with clear settled weather. Noon. Lat.
pm.		SE	27.41 Long. 46.00. pm. Fresh breezes and hazy. 6. In-
			creasing breeze and cloudy.

(Log of William Money continued)

Time.	Course.	Wind.	
			ing showers. 4. Sighted the Island of Bourbon bearing NW
			Saturday, January 12th.
am.		SSE	4. Strong breeze and squally, with a heavy sea. 8. Do.
			weather. Noon. More moderate. Lat. 28.35 Long. 42.32
			pm. Fresh breezes and fine. 4.30 In first reef of fore and
			main topsails. Strong breeze and squally throughout this
			watch. Midnt. Do. wind with small rain.
			Sunday, January 13th.
am.	W	SbE	4 am. Fresh breeze and thick hazy weather; squally at
			times. 8. Moderate, out reefs of topsails, set topgallant sails
			and flying jib. Noon. Increasing breeze and cloudy. Lat.
Noon.		SbW	29.32 Long. 39.10 pm. Decreasing breeze and cloudy, all
pm.		S	possible sail set. Midnt. Westerly breeze and cloudy.
			Monday, January 14th.
am.		Vble.	4 am. Squally with heavy rain. 6. Settled weather. Noon.
		atSE	Fine clear weather. Lat. 30.16 Long. 35.58 pm. Light
pm.		EbS	airs and cloudy, all port studsails set. Midt. Light airs with
8		E	small drizzling rain.
			Tuesday, January 15th.
4am.		NE	2 am. Do. weather. Light airs from NW. 4. Variable.
4pm.		ENE	Noon. Fine weather. Lat. 30.31 Long. 34.28 pm. Light
			winds and fine clear weather. 8 pm. Light breeze & cloudy.
			Midt. Do.
			Wednesday, January 16th.
		NE	am. Steady increasing breeze and cloudy. Noon. Do. Lat.
			31.10 Long. 32.28 pm. Light airs and cloudy. 8. Light
			airs inclining to calms, cloudy. Midt. Light airs and fine.

Ship CLIFTON, E. W. Beazley, Commander.
London to Port Philip.
(Communicated by Messrs. F. W. Green & Co. of Bristol.)

Time.	Course.	Wind.	Bar.	
				Sunday, January 13th.
Noon.	SE	NEly	29,95	Noon. Lat. Obsd. 40.55 S Long. Chr. 43.20 E
8 pm.		NNE		Moderate breeze and hazy weather. 8 pm. Wind
10		N		hauling more Northerly, set port foretopmast and
11		NNW		topgallantmast studsails. Midnt. Unsteady breeze
				and cloudy
				Monday, January 14th.
2 am.		SW		2 am. Wind hauling SWly, cloudy and rainy;
4	ESE	S		in studsails, royals and flying jib. 4. Strong
				Southerly breeze and rainy. 7. Strong and clear
Noon.	E		29,92	weather. Noon. Strong and fine. Lat. Obsd.
pm.		SE		40.39 Long. Chr. 47.20 7 pm. More moderate.
7	ENE			Midt. Light breeze and fair. Heavy SEly swell.
				Tuesday. January 15th.
3am.	NEbN	E		3 am. Set fore and main royals. 4. Tacked ship
5	SSW	SE		to SW. 6 to 8.30 Calm, when a breeze sprang

(**Log of Clifton continued.**)

Time.	Course.	Wind.	Bar.	
8.30	SE	ENE		up from ENE. Noon. Moderate breeze & clear
Noon.		Nly.	29,80	Lat. 39.19 Long. 49.34 pm. Increasing breeze
8 pm.		NW		and fair. 8 pm. Wind hauling NW with small
				rain. Midnt. Fresh breeze and cloudy.
				Wednesday, January 16th.
am.		W		am. Wind veering to SW with small rain. 7.30.
4		SW		Ship under royals, flying jib and starboard stud-
8		W		sails. Noon. Moderate breeze and fair. Wind
Noon.		WNW	29,70	hauling Westerly. Lat. Obsd. 39.38 Long. Chr.
2 pm.		NW	29,70	54.21 2 pm. Set port studsails. 7.30 Increasing
8		Nly.		breeze; in starboard studsails. 10 pm. Breeze
				increasing, with indication of an approaching gale;
Midt.			29,60	in topgallant studsails and booms. Midnt. Breeze
				increasing rapidly; in royals, flying jib, topgal-
				lant sails and two reefs of mizen topsail.
				Thursday, January 17th.
2 am.			29,50	4 am. Fresh gale with squalls and rain; double-
3		NW		reefed fore and maintopsails; in jib and mainsail.
6		WNW		5.30 am. Heavy rain and hard squalls, when wind
7		WSW		hauled WSW. 8 am. Moderating & clear wea-
				ther. 9.30 Out 2nd reef F. & M. topsails and set
Noon.			29,60	topgallant sails. Noon. Moderate gale and fine.
pm.		Wly.		Lat. Obsd. 40.11 Long. Chr. 59.03 pm. Strong
				breeze and fine. Midnt. Do. weather; ship rolling
				heavily.
				Friday. January 18th.
Noon.			29,68	am. Moderate breeze and cloudy. Noon. Strong
				breeze and clear. Lat. Obsd. 40.49 Long. Chr.
				63.32.

Extract from the Log of the HENRY TANNER.
John Davis, Master.
From Mauritius to London.

Time.	Course.	Wind.	
			Tuesday, 8th January.
Noon.		Vble.	Light winds and fine. Lat. Obs. 20.13 S.
2 pm.	Calm.	Vble.	Calms and fine weather. Ship's head round the compass.
3			At 3. A squall and heavy rain.
4	SbW½W		4. Clear fine weather. Light airs and variable.
8	SW		At 7. Island of Bourbon, bore W. S. W.
Midt.		Vble.	Mid. Fine clear weather. Variable winds.
			Wednesday, 9th January.
am.		Vble.	At 4. Cloudy, with lightning all round.
			8. Steady wind. Fine clear weather.
Noon.		E	Increasing breeze. Ship running under all studding sails.
			Lat. Obs. 21.16 S. Long. [about 56.45.]
pm.	SSW	E	Moderate breeze and fine. Ship running under all studding sails.

(Log of Henry Tanner continued.)

Time.	Course,	Wind,	
6			Weather cloudy. In lee top-gallant studding sails.
8			Same weather.
Midt.			Same weather throughout the night.
			Thursday, 10th January.
am.			Cloudy weather. Ship shipping much water on deck.
Noon.			Lat. Obs. 23.45 S. Long [about 56.30.]
pm.	SSW	E	Moderate winds. Fine weather. Ship running under all studding sails.
6	SWbS		
Midt.			Cloudy.
			Friday, 11th January.
8 am.			Moderate winds. Fine weather.
Noon.			Steady wind and fine. Ship shipping much water on deck throughout the 24 hours. Lat. Obs. 25.45 S. Long. 55.40 E.
pm.	SWbW	E	Moderate winds. Fine weather. Ship running with all studding sails. At 3,30. Squally, with heavy rain. In all studding sails.
6		NE	8. Strong winds. Cloudy. Midt. Heavy squalls and heavy rain.
			Saturday, 12th January.
4 am.		NEbE	Same weather throughout.
Noon,			Same weather; decks continually wet with seas rolling over. [Lat. about 27.40.] Long. Acct. 53.54 E. Sun obscured.
pm.			Strong winds. Squally, with heavy rains. Ship running under all possible sail. A heavy sea. Ship rolling heavily, and shipping a deal of water over all.
6			At 6. Close-reefed fore-top sail. Stowed main royal. At 8. Same wind. Heavy rain.
Midt.			Mid. Do. weather. Heavy sea. Ship rolling as before.
			Sunday, January 13th.
10 am.		NE	At 4. More settled weather.
12			Strong winds, hazy weather, ship rolling heavily and shipping a deal of water of all. Lat. Obsd. 29.22 S Long. Acct. 52.8 E.
pm.	WbN	NEbN	Strong winds, hazy weather. Heavy sea. Ship rolling very heavily. All useful sail set, shipping a great deal of water over all.
7			Strong gale. Very heavy sea. Stowed topgallant sails, close-reefed fore topsail. Double-reefed the main.
10			Heavy rain and squalls. Hauled the mainsail up, & stowed the jib.
12		N	Ship rolling and lurching very heavily. Set the mainsail & main trysail to keep the ship steady. Heavy lightning to the Westward.
			Monday, January 14th.
6	WbS	NWbW	At 6 more moderate, set jib and mizen. At 11 a furious gale commenced from the South and West, stowed courses, mizen and jib, ship plunging and rolling and labouring very heavily, the sea making a break over the ship and completely smothering her.

(Log of Henry Tanner continued.)

Time.	Course.	Wind.	
pm.			Very heavy gale, a heavy sea, ship labouring and straining very heavily, and making very bad weather, the seas making a fair breach over the ship, the ship completely under water.
2	Up SSE Off ESE	SW	At 2 the gale increasing, ship hove to under main-trysail & foretopmast sail.
			At 8 same weather. ship rolling and labouring as before.
Midt.			Heavy gale as before, ship completely under water.
			Tuesday, January 15th.
4 am.			4. More moderate.
5			5. Ship rolling and shipping heavy seas as before.
8	E		8. More moderate, ship labouring very heavily and shipping a deal of water on deck.
10	NE	SSW	After consultation between the Master and Officers of the ship, it was determined to return to the Mauritius.
Noon.			Fine weather. [Position about Lat. 28.00 Long. 50.00]
pm.	NE	SE	Moderate winds and fine, a heavy swell from the Westward,
6	NEbE		ship rolling and shipping much water on deck.
Midt.			Light winds
			Wednesday, January 16th.
4 am.			Light winds.
6	ENE		
8			Same weather.
Noon.			Fine weather. Lat. Obsd. 27.20 S Long. 50.50 E.
pm.	ENE	SE	Moderate winds, fine weather.
8			Light winds, cloudy.
12	NEbE		Light airs, hazy.

Having thus given the details of this Typhoon of the HENRY TANNER, and shown its position on the 14-15th to have been in about Lat. 28.00 S, Long. 50.00 E, i. e. directly a-head of the Sea Park, I proceed to show how well Captain Humphris divined the position of the danger, and how wisely he judged the mode of avoiding it.

Jerusalem Coffee House,
Cornhill, London, June 12, 1850

Sir,

I am able to give some information of a Tropical Storm near the Mauritius, about the 14th and 15th of January last, you will observe by the extract from my Log that I hove to to avoid running into the Eastern side of the Storm, and consequently had nothing hardly of the gale, nor was I aware that any ship had suffered about that time, but I was quite sure there was very bad weather to the W and WSW of me; for all these dates the ship's position may be depended on as quite correct.

I remain Sir, your's obediently,
T. HUMPHRIS.

Ship SEA PARK, from Calcutta to London.

Monday, January 14th.

am, NNE & N. Strong breeze, smooth water, and fine weather. Course W ½ N.
Lat. Obsd. 26,49 S Bar. 30,3.
Long. Chr. 60,58 E Symp. 30,0.
Ther. 80.

pm. Increasing Northerly breeze and fine, with smooth water, at 2 in all studsails. Bar. 29,90 Breeze gradually increasing; at sunset in topgallant sails, observed the Barometer carefully at the time of the evening tide and found it inclined to give way; in 2 reefs, fore and stay, and 3 reef maintopsail; the breeze increasing fast to a gale; at 10 in jib mainsails and mizen topsail. Bar. 29.80 Midnight. Bar. 29,60. Wind increasing fast, wore round and brought to under the treble-reefed maintopsail on the port tack.

Tuesday, January 15th.

1 am. Wind shifted to NW with rain and hail gusts, the Barometer stationary in the forenoon, weather fine and clear, but a very high sea on. Towards Noon Bar. began to rise.
Lat. Obsd. 27,15 S Bar. 29,70.
Long. Chr. 59,49 E Symp. 29,80.

pm. Still hove to, the breeze falling light, weather fine, wind veering fast to NW & W; at 4 SW; much sea on, ship rolling and pitching much, made sail to ease the ship; Bar. rising. 8. Bar. 29.80 Set the courses; fresh Southerly breeze; as we went to the Westward through this night we got into a tremendous sea, the ship pitching bows and spritsail yard under.

Wednesday, January 16th.

am. Fresh Southerly breeze; towards morning less sea, the Bar. rising slowly but steadily, weather squally with showers.
Lat. Acct. 26,53 S Bar. 29,90 Ther. 77.
Long. Chr. 59,5 E Symp. 30.

pm. Fresh squally Southerly gale, moderating in the evening part, and the sea going down fast. Midt. Fine weather. Bar. 30.

As it is no part of my present purpose to discuss the Storms of the Southern Hemisphere, or to make any invidious reflections upon the conduct of officers, which would be unnecessary, and possibly might be disagreeable, I shall pass over all the details of the above logs,* and put aside all observations that might arise out of them, and proceed to the simple and obvious fact, that on the afternoon of the 14th, a violent Typhoon was raging in Lat. 28.00 S, Long. 53.00 E, and that Capt. Humphris, on approaching towards it, by availing himself of the warning supplied by his Barometer, and by the wind and weather, and by adopting the line of conduct recommended by his own previous practice, and by the science of Storm writers, was enabled to avoid great danger and damage, which otherwise he probably would have encountered.

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* Such a discussion would only be the more superfluous here, as I understand that Mr. Weale proposes to introduce the Cyclone of the Lord John Russell and the Typhoon of the Henry Tanner into a series, which he has commenced, entitled, "NARRATIVES Illustrative of the LAW OF STORMS'," a work which appears calculated to be of much service, and to lay the foundation of much useful discussion.

To transfer our attention from the Sea Park on the 14th January, at the commencement of her homeward bound voyage in Lat. 26.00 S. Long. 61.00 E., to the same ship at the conclusion of it on the 2nd April, in Lat. 39.00 N. Long. 29.00 W, we find her in precisely similar circumstances, locality alone excepted. Increasing wind, stormy weather, falling Barometer, indicate in this case, as in the preceding, that the weather was likely to grow worse. It is therefore with much gratification that I avail myself of Captain Humphries permission "to make any remarks I please on his proceedings during the 2nd and 3rd April, as he well knows that it is only by shewing the effects of good and bad management that I shall be able to make people think there is any thing in the Law of Storms out of the Tropics."

Now I think my readers, who have perused the preceding extracts, will not be a little surprised to see how recklessly and unnecessarily Capt. Humphris ran his ship into the Cyclone Storm *C.* of this series.

The situation of the Sea Park* was precisely similar to that of the PEKIN, both vessels were running before the wind, with the Barometer falling rapidly and the sea getting up, the Storm increasing† but continuing steadily in the same quarter. They

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* See Appendix, Part I. Page lx.

† In justice to Captain Baker, it should be stated, that being beset in an intricate and land-locked navigation, in the neighbourhood of the Paracels Shoals, he was not so free to act as if he had been in the open sea, into which he was obliged to stand on, although anticipating the probability of a Cyclone, rather than incur the risk of the unseen dangers under waters. This apprehension may also have been his motive for laying his ship to with her head to South and sea-ward on the port-tack, rather than to the Northward, on the starboard tack, the latter course being that which Theory and well established practice combined in recommending, and which certainly in his case would have enabled him to meet the seas better, as the swell came round from NE to E, and SE. But the truth is, that in these cases much latitude must be left to the discretion of the Commander; Captain Baker saved his ship in defiance of Theory; had he hove her to at 4 p.m. with her head to the Northward and been drifted towards the shore, where might he not have been in the course of the night? aground on a reef and all hands lost, or had they been saved, would his owners have admitted the "Law of Storms" to be a sufficient justification?

The greater portion of this Extract of the Pekin's Log having already appeared in the public Journals, there can be no scruple in printing it here in full on the score were in the front right-hand quadrant of a revolving Cyclone, whose axis they were attempting to cross, but of course ineffectually, as in either case the Storm's-eye was advancing too rapidly to permit them to do so.

Pen. & Oriental Company's Steam Ship PEKIN,
From Hong Kong towards Singapore.

Time.	Course.		Wind.	Bar.	Th.
1	SbW	8.4	NE	29,50	
2	..	8.4	..	29,40	
3	..	8.4	..	29,30	
4	..	8.4	..	29,25	78
5	..	8.4	..	29,20	
6	..	8.4	..	29,15	
7	..	8.4	..	29,10	

8 Hove to head EbS
ESE & SE
Furious gusts from NE 29,5 76
with a frightful sea on.
9 Wind continues NE 29,0
Tremendous gusts.
10 Wind veering to ENE
28,90
Awful gusts of wind, with
an overwhelming sea 28,85
Midt. Well 8 inches 28,80 75
Hove to still. ENE

Wednesday, 1st October.

p.m. Wind increasing and Bar. falling, in topgallant sails and reefed topsails, sent down topgallant yards. 2 p.m. Still increasing (steady NE.) Furl'd main topsail. At 3. Blowing a fresh gale, furl'd all sails as snug as possible, got spare gaskets on the sails; unbent the outer jib and sent the boom in. At 4. Increasing to a strong gale (steady NE.) sent down all studding sail, booms off the yards, sent the carpenter below to see all the ports were secured below. At 5. Increasing, heavy sea getting up, battened down the tarpaulins of the skylights, and did all we could preparatory to encountering a heavy gale during the night. At 6. Blowing very hard indeed, the ship with the greatest difficulty kept running, a reefed fore trysail set, the main trysail close reefed and furled. At 7. Ship came up to SE in spite of the helm being hard a port; found it necessary to heave the ship too as quickly as possible; took the fore trysail in, and brought ship's head to about ESE, the jib and starboard cutter were washed away, carrying the iron davits with them; ship keeping to the wind nicely, working full power with the engines below (which power saved the ship). At 8. Blowing a furious hurricane, the gusts being truly awful. At 9. The port quarter boats were literally blown and washed away from the davits. At 10. Blowing a frightful Typhoon, the violence of the wind preventing any one standing on deck without holding on, the fore topmast blown away just by the cap. The wreck, with the topsail yard falling into the lee fore rigging, carrying away one shrowd and the starboard forelift, the fore yard coming a cock-bill, both forestays gone, the masts working dreadfully; at midnight the main topmast blown away just by the

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of breach of confidence or of the feelings of individuals. I may also disclaim any intention of casting censure, my only object being to add to the materials bearing on the subject in hand.

(Log of Pekin continued.)

cap, the wreck falling into the lee main rigging and fortunately doing no injury, carrying away starboard main lift, main yard a cock-bill, the yard-arm jammed in the wreck; the leezings of the wheel ropes carried away, got large tackles on the tiller, the Officers steering and conning the ship, crew frightened and not to be found, excepting about six and the Europeans.

2nd October, a.m. From midnight until 2 a.m. blowing a tremendous hurricane, the ship taking in large bodies of water fore and aft, on both sides, tons washing below, sounded the well very often, found the ship making no more water than might be expected, washed all the tarpaulins off the hatches, did all in our power to secure them. At 3 a.m. in a sudden lull the ship paid off to SW, and before we could bring her to the wind, shipped a heavy sea over the starboard quarter, carrying away Binnacle Compass, fortunately managed to bring the ship to the wind again, saved the Binnacle Compass. 4.30. Wind beginning to veer to South of East, the Mercury in the Barometer and Aneroid began to lift, still blowing furious, kept the ship head to sea, and commenced at day-light securing the lower yards which were knocking about frightfully and we fully expected to see the lower masts go by the board, but after the greatest exertion on the part of the Officers (one and all) we managed to secure the masts and wreck. Crew knocked up and frightened; found the fore and main trusses gone, nearly all the awning stanchions, the horse and cow dead, eight sheep, and nearly all the poultry. We the undersigned are of opinion, that all was done that man could do, under the awful circumstances, and that if any cargo is damaged, it was caused by the force of winds and waves, and quite beyond our controul, and we now protest to that.

Signed
D. W. Evans, 4th Officer.
H. F. Ingram, 3rd do.
W. Lindsay, 2nd do.
T. A. Granger, 1st do.
R. B. Baker, Commander.

(A true Copy of Ship's Log.)

Time.	Course.	Wind.	Bar.	Th.
1 am, Furious gusts		EbN	28,80	
2 Nothing could withstand its violence. Bar. lowest at 2pm, Aneroid			28,90	
3			28,80	
4		E	28,80	74
4.30 am.		EbS		
5		ESE	28,85	
6 Moderating well 7 in.		SEbE	28,95 29,05	
7 Moderating with tremendous sea running		SE	29,10 29,20	
8 Moderating.				
9 Sea awful. Moderating.				
10	SE 4	SE		
11	1		29,30	
Noon.	2.4		29,40	

Position of the Pekin 1st October, 1851,

At Noon....................	Lat. 16,45 N	Long 110,45 E
Ran 59 miles SbyW	58	11
Position at 8 pm. Hove to,	15,47 N	110,34 E

London, 21st Nov. 1851.
R. D. GUTHRIE.

The following letter from Capt. Squires, with the copy of the Sir Edward Parry's Log, was communicated to me by Capt. Gilmore, her owner, as a remarkable instance of a hurricane off the Cape de Verde Islands; but it is interesting not merely on that account but as another case in point, of wind continuing steadily from the same quarter whilst the Barometer fell, notwithstanding its increasing violence.

"Sir Edward Parry," at Sea, 12th Septr., 1850.
Lat. 13.12N. Long. 24.32W.

Dear Sir,

* * * * since my last communication by the Barque "Manderin," Capt. Pipon, on the 3rd Instant, announcing to you the severe Hurricane we encountered on the evening of the 3rd. and morning of the 4th Instant. I will now endeavour to give you a more detailed account, and also enclose you a copy of the Log for that time. We had a good deal of squally cloudy weather, but the Barometer showed nothing very threatening until 3 pm. when it was at 29.28 falling. I shortened sail as you will perceive by the Log, but the gale came on so rapidly with a most frightful sea running, all my fore and aft sails gone, and the ship labouring heavily, I brought her to on the starboard tack, with her head to the Northward under bare poles except a tarpaulin in the mizen rigging to assist in keeping her to. I have never witnessed during the period I have been at sea (although I have been in several hurricanes before) anything equal to it, it was impossible to stand up against it, and with a speaking trumpet close to the ear you could not make yourself understood. I was glad when morning came that we could clear the wreck, the night being so dark that no man could move without the chance of having himself destroyed. * * * *

The Barometer continued falling until she reached 28.40 and remained so until 2.30 am. on the 4th Instant, when it began to rise rapidly; the Thermometer ranged from 76 to 80 during the severest part of the hurricane. * * *

I am sorry to add that the weather has been much against us, the swell continuing so heavy still that we can hardly stand on the deck, and the rain falling fast.

At the time the hurricane struck us the Island of St. Antonio bore about ESE distant from 20 to 25 leagues. * * * *

To Capt. Gilmore. WM. SQUIRES.

SIR EDWARD PARRY, England to China.

Time. Course. Wind. Bar. Th.

Monday, September 2nd.

pm. SW ENE] pm. Commences with strong breezes and gloomy
weather. 4 pm. Do. weather. 8 pm. Cloudy. Midnight. Squally.

Tuesday, September 3rd.

2,10 am. Squally, with nasty appearance. 3 am. Squally, in all studsails. Daylight.
6am. SE] Squally, with heavy rain. 6 am. Do. weather, in
main-royal and flying jib; in mizen topgallant sail. 8 am. Hard squalls, with heavy
rain, in trysails. 10 am. Do. weather, in fore and main-topgallant sails. Port main-
Noon. 29,50] brace bumpkin carried away. Noon. Heavy
squalls, in mizen topsails, and double-reefed the fore and main-topsails, in jib. Lat.
. Long. . pm. Begins with a heavy squall, with heavy rain. 2 pm. Hard
squalls, ship labouring heavily, and taking a quantity of water on her decks over

(Log of Sir Edward Parry continued.)

Time. Course. Wind. Bar. Th.

all; stove in the bulwarks on both sides forward. 3 pm. Blowing a gale, hauled the courses up and clewed down the topsails, close-reefed ditto, and furled the courses. 4 pm. Blowing a perfect hurricane, stowed the topsails, and hove ship to under her bare poles, with her head to the Northward, the sea making a clear breach on board. Bar. 28.50 5.30 pm. Still blowing a hurricane. 7.30 pm. Do. weather, blew away the fore and main topmasts, the sea still running very high and the wind blowing to a hurricane. 9 pm. Starboard boat blew in on the poop deck and stove her in, carrying away the davits, blew away the mizen-mast which fell heavily on the poop, smashing the skylight, &c. &c. 10 pm. Heavy sea struck the quarter, and washed away the stern boat (jolly boat). The wreck still hanging to leeward (port side) stove in two of the lower deck lights, by which a great quantity of water was taken into the between-decks before it could be secured. it being utterly impossible to do anything with the wreck, the ship labouring so violently and the night so very dark.

Wednesday, September 4th.

2.30am. 28,40] Daylight. Employed cutting away the wreck to prevent its injuring the rudder and ship's bottom; it still blowing hard the mainsail broke adrift from the gaskets carried away the naval bolt of main truss, fore and mainstays carried away, cut the mainsail away to save the yard and mast afterwards, carried away the fore and main lifts and braces. which left the yards utterly unmanageable for a time; carried away the port main yard-arm. 6 am. Managed to secure the main-yard. 8 am. All hands employed clearing away the wreck, heavy sea still running forward, the whole of the stock on the poops destroyed by being crushed by the wreck of the mizen-mast and cutter. Got up the 11-inch hawser & cut it for fore and main stays; found the deck very leaky, also her sides from, ship straining so much, pumped ship as required, carried away the inner bobstay. 11.30 am. Less wind but still a tremendous sea running, ship labouring very much

Noon. 29,47] Noon. Do. weather. Lat. . Long. . .

This Storm was certainly Cyclonic, for at the Cape de Verde Islands it set in, as I have been informed, at NW, and having lulled for four or five hours recommenced at SW. The Sir Edward Parry must therefore have run down into its Northern right-hand hemisphere as it was travelling Westward*.

Under these circumstances when it became impossible to hold on any longer, consistently with the safety of the ship, the Sea Park was hove to on the starboard tack, but not until she had been placed in imminent peril, and had experienced very considerable damages; but if instead of being light and having troops on board she had been heavily laden, she would probably have suffered much more severely, if we only bear in mind the hazardous position into which she had been brought.

* I received some details of the effects of this Storm at the Cape de Verde Islands, collected by Capt. Wainwright, R.N. from which it appears that its axis must have been along the 17th parallel of North Latitude. These will probably be the basis of a Number of Mr. Weale's Narratives already alluded to.

Similar to her position was that of the Wellington on the 24th—26th of March, (Storm *A*. Page xii.) and on the 29th—30th (Storm *B*. Page xliv) of the Randolph (Storm *C*. Page lxvii) of the Frances Walker (Storm *F*. Page cix.) and of many other vessels which will have occurred to the reader in comparing the foregoing pages: they were in advance of the Storm's-eye in the quadrant of greatest danger, and on heaving to they allowed the centre to pass by them, and then found the wind veer to the Northward, and the weather to improve.

The inference I draw from these considerations is that *whenever with the wind in the same quarter, no matter what its force may be, the Barometer continues to fall steadily,* the ship is not merely approaching a Cyclone, but moreover is running into the quadrant of greatest danger, and after testing this proposition by various diagrams, I am convinced of its truth, and recommend this to the most serious consideration of those whose course lies near the trade winds, because so many ships have come into trouble from their Masters mistaking for a *strong increasing trade wind,* what was really the exterior portion of an approaching Typhoon or Tornado.

But not to be led into a digression on *Tropical Storms* I would ask my readers to take any one of those traced above in Chapter I. Storms *C*. or *F*. for instance, and to observe how exactly their details coincide with those Tropical Hurricanes, the Cyclonic nature of which is now, I believe, universally admitted by those who have given their attention to this subject.

When a Cyclone *originates in the open seas* of the Tropics which is generally the case with the Tornados of the West Indies and the Typhoons of the Indian Ocean, it moves along *horizontally,* and vessels on the opposite sides of it have the wind blowing with the same force, in whatever direction the Storm's-eye may lay; or if it happen that the Storm's-eye should pass exactly over or near a vessel, she will generally have the wind with the same degree of violence whilst the Barometer is rising, as whilst it was falling.

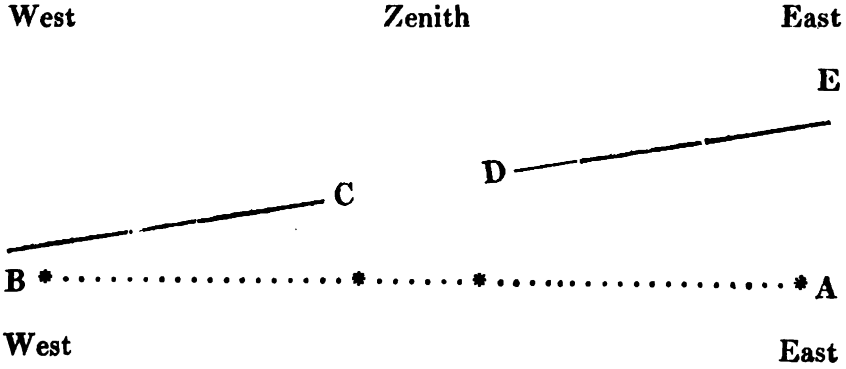
But in the case of extra-tropical Cyclones, such as are those which have been traced in Chapter I, it will generally be found that the contrary is the case, and that sometimes the hardest part of a gale is whilst the Barometer is falling, and sometimes on the other hand the Barometer will rise and yet the weather will become worse. As an instance of the former, I may refer to the Sea Park in Storm *C*, after the Storm's-eye had passed beyond her, the violence of it abated rapidly; of the latter, the Wellesley (page lxiv.) presents a good example; as long as this last vessel ran before the wind she appears not to have had the Storm so severely as when she rounded to and allowed the centre to come up with her.

The great violence of Storm *A* in passing over these Islands, which were in its left-hand hemisphere, was in its front quadrants, as the wind fell whilst the Barometer was rising.

I have stated at page 62, that on the 14th, whilst Storm *H* was moving Northward, its front was lifted up by the high lands of the West of Ireland, but that its rear quadrants were pressing severely on the Bay of Biscay and the sea to the North of the Azores.

There is therefore this important distinction between the true tropical Tornado, and what are designated as *Gales of the North Atlantic,* that in the former the violence of the wind increases gradually as a ship is drawn within its area and nearer to its centre, and that in the latter squalls come on very suddenly, and a ship sailing under full canvas may be stripped to her yards in an instant, and that these squalls are very frequently the immediate forerunners of very heavy gales which come on suddenly, and with very little warning.

This inclination of the plane of the Storm's area will perhaps be better illustrated by the following Diagram, in which the horizontal dotted line B . . . . A represents the level of the sea and the inclined line B C D E the plane of the Storm, and C D the



Storm's-eye, and let the Storm be travelling Eastward or to the North of East.

Now it is evident that if the ship A be standing Westward she will have the wind from the South-west and Southward but gently, and probably foggy or rainy until she approaches the Storm's-eye, as at D; she will then have an interval of fine weather, with a calm or perhaps light winds, but during all this period her Barometer will be falling steadily though gradually until she approaches its hinder quadrants, and then she will have sharp squalls, and probably a shift of wind to the Westward or Northward of West, increasing rapidly and violently as she comes within the influence of the hinder quadrants of the Storm which are represented as resting on the surface of the water as at B.

Now lest my readers should suppose this to be merely an imaginary case, let me refer them to one instance out of many, that of the Northumberland, in Storm *G.* page cxvii, in which they will find precisely those details which I have given above, and which explain my meaning very clearly, on the supposition that at this time the Northumberland was to the Southward of the Storm's axis and in its right-hand hemisphere.

If then the ship as at C having the wind from the Westward should come on the port tack with her head to the Northward, she would be drifting towards the axis of the Storm, and should she lie to, she would not merely fall off as the wind came round to WNW and NW, but be drifted with the Storm to the Eastward, that is to say away from her port, or if instead of lying to she continues under sail, she will have a continuation of bad weather, arising from the slower rate of progress of the Storm's hinder quadrants in the process of *expansion.*

There is however this distinction between the case of Sailing Vessels and a Steamer as affected by Rotatory Storms, that unless the wind be directly contrary, she may constantly be liable to pass from one quadrant of a Storm into another, and supposing the Storm to be recurving, she may perhaps overtake it as her rate of progress will be more rapid than the advance of the Storm.

To suppose so shocking a thing as that our sailing ships, the wooden walls of Old England, should ever sink into mere coal-tenders for Steamers, might raise the byegone generation out of their graves in pious horror, and yet we are told by Mr. Porter, that not many years ago few were so sanguine as to suppose that the utility of steam vessels would ever be experienced except in inland river navigation, or for short distances along the coast.

If we look back a few years only and consider in how short a time our Steam-Navy has sprung up, and how rapidly it has increased, and to what an extent it has spread over the civilized world, the imagination is at a loss for the limits within which to bound its probable influence. And if we consider further that the Steam-Navy under the British Flag is but a portion of that wonderfully created power, and that on the broad waters of the Pacific a new traffic is rapidly rising into existence, we may well pause ere we assign any bounds to the extent to which steam will supersede the sail. In support of this opinion of the indefinite application of which steam is susceptible for the purposes of Navigation, I beg to quote a few extracts from Mr. Porter's work, entitled "Progress of the Nation," published in 1847, which will shew how rapid and enormous has been the increase of Steam Vessels since their introduction, and which will be found in the 2nd Edition, Sec. III. Ch. IV. The passages within brackets have been supplied to me by Mr. Porter, for the purpose of bringing these data down to the latest period, and of showing the increase since the publication of his work, that the reader may form some idea of the probable progress of the developement of the capabilities of Steam Ships, and of their applicability to mercantile purposes.

"The celerity and the certainty with which voyages are performed by the aid of Steam power, joined to their superiority in regard to safety, have long occasioned steam-vessels to be preferred as passage-vessels wherever they can be employed; and within the last five years they have in a great degree superseded the use of sailing vessels for trading purposes also, where the distance to be accomplished is not very great, and where the bulk of the goods to be conveyed is not considerable in proportion to their value. A very large portion of the trade between Hamburg and the United Kingdom is now carried on by means of steam-vessels.

"The progress in each year, from their first introduction, has been as follows:—

	England.		Scotland.		Ireland.		Total.	
Years.	Vess.	Tons.	Vess.	Tons.	Vess.	Tons.	Vess.	Tons.
1814	..		1	69			1	69
1824	80	8,642	20	2,682	5	,409	114	11,733
1834	301	27,059	77	8,187	46	8,183	424	43,429
1844	679	75,047	137	20,666	81	17,519	897	113,232
[1850	898	108,785	169	30,928	114	27,685	1181	167,398]

"The published lists of steam-vessels belonging to different ports in the United Kingdom, show the extent to which this new mode of voyaging is adopted by the public. Scarcely any two ports of consequence can be pointed out between which steam communication is not maintained as well for the conveyance of passengers as for the transmission of goods. Besides this, the communication is regularly maintained with all the principal neighbouring ports on the Continent of Europe.

"The table next to be given is interesting, because it exhibits a complete statistical history of steam navigation, as applied to commercial purposes in this country, from its first adoption to the end of 1849. One of the most remarkable circumstances connected with this history is the extraordinary rapidity of its developement. When first adopted few persons were so sanguine as to suppose that the utility of steam-vessels would ever be experienced, except in inland river navigation, or for short distances along the coast; a very few years have sufficed for their general introduction in all the seas and rivers of Europe, and at this moment their employment serves as a means of drawing closer the connexion between the old and new world. Large and powerful steam-ships are now constantly passing between this Kingdom and the United States of America, introducing thus a degree of certainty into the correspondence between these two countries which cannot fail to be of immense advantage to the most important branch of foreign trade in which our merchants are engaged. Twice in each month mails, passengers, and specie are conveyed between England and her West Indian Colonies, and by the same means communications are kept open with Mexico, and a great part of South America. The voyage made in 1826 by the "Enterprize" to Calcutta, was considered a failure, and doubtless had for a time considerable influence in deterring our merchants from undertaking distant steam voyages. Other experiments of the same kind have since been made however, and with perfect success. The years that have elapsed since the voyage of the "Enterprize" was accomplished, have, as might reasonably be expected, brought forward many improvements in what was then an infant science; *and although we may not perhaps witness in our day the establishment of a line of trading packets to India round the Cape of Good Hope* this will be principally owing to the greater facility that attends the communication through the Mediterranean, and not because the other route is impracticable or even difficult.*

"*An account of the Number and Tonnage of Steam Vessels, including their repeated Voyages, which entered the ports of the United Kingdom, and cleared from the same in each year from* 1820 *to* 1844; *distinguishing the Vessels employed in the Coasting Trade from those engaged in Foreign Voyages, and separating Foreign from British Vessels.*

Inwards.

	Coasting Trade.		Foreign Trade.					
	British.		British.		Foreign.		Total.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
1820.	9	505	—	—	—	—	—	—
1824.	888	124,073	139	10,893	6	312	145	11,205
1834.	10,077	1,761,752	988	146,720	12	3,164	1,000	149,884
1844.	15,553	3,383,160	3,124	507,549	558	85,917	3,682	523,466
[1850.	19,589	4,600,913	4,276	926,769	959	204,759	5,235	1231,528]

* These italics are mine not Mr. Porter's; the above passage was first published in 1847; Quod optanti divom promittere nemo
Auderet, volvenda dies, en, attulit ultro;

In less than five years the force of circumstances, the combination of mercantile and political necessities, has established a line of steam-packets to the Cape, which it is proposed to extend at the earliest possible period to Australia. In 1837 a Committee of the House of Commons was appointed to inquire into the best means of establishing a communication by steam with India, by way of the Red Sea; in 1851 a Committee of the House reports in favor of establishing a similar communication with Australia by way of the Cape of Good Hope.

Outwards.

	Coasting Trade.		Foreign Trade.					
	British		British.		Foreign.		Total.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
1820.	—	—	—	—	—	—	—	—
1824.	1,197	147,523	208	15,796	8	416	216	16,212
1834.	9,972	1,749,698	896	137,607	57	12,018	953	149,625
1844.	15,500	3,270,499	3,063	491,115	569	85,176	3,632	576,291
[1850.	19,584	4,621,392	4,074	876,186	936	202,133	5,010	1078,319]

"The above account does not include vessels arriving and departing in ballast, or with passengers only, which are not required to enter at the Custom-house. Steam-vessels were not employed in this Kingdom for conveying goods coastwise previous to 1820, and, except for carrying passengers, such vessels were not engaged in foreign trade earlier than 1822.

"The number of letters and newspapers received at the Ship-letter Department of the Post-office from and to Ceylon, Bombay, Madras and Calcutta in each of the three years ending 5th October, 1834, 1835, and 1836, were as follows:—

		Ceylon.	Bombay.	Madras.	Calcutta.	Total.	
1834.	From,	6,279	35,536	29,371	87,747	=158,933	
	To	8,369	24,126	35,285	37,689	=105,739	
							264,672
1835.	From,	4,204	40,505	37,738	84,894	=167,341	
	To,	8,326	24,862	35,250	38,341	=106,779	
							274,120
1836.	From,	7,278	33,306	38,720	100,611	=179,915	
	To,	9,673	24,078	35,470	42,712	=111,933	
							291,848

"In the last of these three years the number of letters from India, exclusive of

those addressed to soldiers and seamen was	149,504
The letters to soldiers and seamen were	9,856
The number of newspapers was	12,649
And of franked letters,	7,906
Making together, as above stated,	179,915

"The increase in the number of letters and newspapers passing between England and our possessions in India has, as it was reasonable to expect it would, most importantly increased since the establishment of regular mail communications, as appears from the following figures;—

		Letters.	Newspapers.	Total.	
1843.	Inwards,	350,767	112,058	—4 2,825	
	Outwards,	370,038	429,028	—799,066	
					1,261,891
1844.	Inwards,	397,657	111,444	—509,101	
	Outwards,	441,925	536,378	—978,303	
					1,487,404
1845.	Inwards,	505,192	154,940	—660,132	
	Outwards,	448,335	686,561	–1134,896	
					1,795,028

"It must be remembered that the alterations made in 1833 in the constitution of the East India Company have tended to give a great and growing degree of animation to the commercial correspondence between India and Europe beyond that which existed before that time.

The following paragraph copied from one of the London Weekly Journals of the 3rd Jan. 1852, gives a brief but very comprehensive Abstract of the Lines of Ocean Steam Communication, showing those in contemplation, as well as those actually existing; and if we consider that for their construction, unlike internal land communications, no expensive works will be required which involve much cost of time and money, but that nature has provided gratuitously the grand high-road of all nations, "The sea, the open sea," we can readily understand that enterprize alone is needed for the establishment of these lines.

OCEAN STEAM POSTAL COMMUNICATION.

A few weeks since it was announced that, after many months of hesitation and delay, the Government had resolved on establishing a bi-monthly line of mail steamers to Australia, by way of the Cape and Singapore. Since that time a contract has been announced for the conveyance of mails to the coast of Africa; the Indian and China service by way of the Mediterranean is to be extended, and the Government is said to have granted a charter for a line between Galway and Halifax. Desirable as these extensions of our system of ocean steamers must prove to our commercial interests, it is impossible not to feel how feeble and dilatory that system is, when compared to the gigantic efforts which are about to be made by the United States on the great lines of commercial traffic with Europe, Central America, and the East. By the official report of the Postmaster-General of the United States, we find that offers have been made to his department, to contract for a mail steam service from New York to Antwerp; from New York, by Gibraltar, Marseilles, and Toulon, to Genoa; from Philadelphia to Antwerp; for the extension of the New York and Havre line to Bremen; from New York to San Francisco by the Nicaragua route; from Philadelphia to Havannah; from New York to New Orleans, in connection with a contemplated railroad service across the State of Florida; from New York to Galway; from New York to Venezuela, by St. Thomas and other West India islands; from San Francisco to China and Calcutta, by way of the Sandwich Islands; to say nothing of other lines which have been projected to the Brazils and other parts of Central and South America, but have not yet been submitted to the Government.

Another branch of commerce which has recently sprung up, and which will probably increase steadily and rapidly, is the transport of coals to transmarine depots for the supply of the consumption of Steam Ships.

Independently of the quantity delivered at their stores in the Southampton Docks, the two Mail Companies consume a great amount of fuel which they take on board at different stages along their respective lines of route. Of these, one company alone, the Peninsular & Oriental, has depots at Lisbon, Gibraltar, Malta, Constantinople, Alexandria, Suez, Aden, Bombay, Calcutta, Madras, Pointe de Galle, Singapore, and Hong Kong, and the quantity of coal, delivered at these stations during the year 1850-1, amounted to 110,000 tons. Such a quantity of coal must have required a large amount of tonnage to convey it.

Peninsular and Oriental Steam Navigation Company,
Offices, 122, Leadenhall Street,
London, 3d January, 1852.

My Dear Sir,

I have duly received your favour of yesterday, and have pleasure in complying with your request. I have put down the quantity, and also that sent round the Cape Good Hope to the Stations mentioned on the other side; the information I have taken from the "Coal Account," so you may place reliance on its being correct. I may here add, that the quantity increases yearly, in proportion to the Ships added annually to the Fleet. The Coaling Stations are,—

Home Station:	
Lisbon	5,400 Tons.
Gibraltar	9,600
Malta	14,400
Constantinople	6,000
Alexandria	4,200
	39,600

India Station:	
Suez	3,000
Aden	15,000
Point de Galle	14,400
Madras	3,000
Calcutta	12,000
Penang	2,000
Singapore	12,000
Hong Kong	9,000
	70,400

Home Station	39,600
India Station	70,400
	110,000 Tons.

I trust the above will be sufficiently distinct for your purpose.

Believe me,
Sincerely your's,
R. D. GUTHRIE.

F. P. B. Martin, Esq.

The other Company whose operations are limited to the communications of two lines only, viz. from England to the West

Indies and Gulf of Mexico, and from England to the Brazils, in the last year has caused 81,812 tons to be transported to its depots out of England, and chartered 80,000 tonnage for this purpose.

Royal Mail Steam Packet Company,
No. 55, Moorgate-street,
London, 13th January. 1852,

Sir,

I beg to acknowledge the receipt of your letter dated the 8th Instant, and * * * have much pleasure in transmitting to you at my earliest opportunity the following information, viz.—

Names of Coaling Stations.	Quantities transported to each in 1851.
Grenada, ...	2,626 Tons.
St. Thomas, ...	39,586
Jamaica, ...	10,319
Havana, ...	3,494
Fayal, ...	337
Cape de Verde, ...	8,132
Madeira, (supplied by Contract,)	3,350
Rio de Janeiro, ...	9,211
Bahia, (supplied by Contract) say	1,000
Lisbon, ...	3,757
Say Total transported in 1851,	81,812 Tons.

I may add that the number of Colliers chartered by this Company in the year 1851, was 219—the aggregate Tonnage of which was 80,000 Tons upwards.

I remain, Sir,
Your obedient Servant,
E. CHAPPELL, Secretary.

Not merely has steam-communication arisen where heretofore it did not exist, but in the lines previously in operation more frequent passages are effected by the addition of new vessels, and the newly built vessels are of larger dimensions and greater power.

I may instance the Bremen, Southampton and New York Line of Steam Ships. Two years ago the Washington and Hermann of 1,850 tons performed monthly trips. The Humboldt and Franklin which have been added to this line are upwards of 2,200 tons each.

The five new vessels recently added to the fleet of the R. M. W. I. St. Packet Co., of which the Demerara and Amazon were sister-ships, are upwards of 3,000 tons each, being nearly equal to H M S. Queen, one of the largest Line-of-Battle ships in the Royal Navy.

Two years ago the communication between England & North America was maintained during the winter months by the "Cunard Liners," which left Liverpool on alternate Saturdays. At present the service is performed on intermediate weeks also by an additional line of Packets which has since been established.

Without presuming too much on vague speculations, we may safely take it for granted that the number of Steamers will increase yearly, that their power will be greater, and that more coal will be required each year for their consumption, and that to convey this fuel to those places where it will be shipped for consumption an annually increasing amount of tonnage must be employed.

As difficult is it to overrate the importance of Steam-Navigation as it is impossible to assign a limit to its future extent, and equally difficult would it be to say how far Steam-Navigation may not be benefitted by a judicious attention to the principles of science, especially of Nautical Meteorology.

For to revert to the distinction between Sailing-ships and Steamers as affected by favourable or unfavourable winds, it must be remarked that on meeting bad weather the utmost that the former can do is to wait until her enemy has got out of her way and lie to quietly until the danger is passed, *as she cannot afford to run off her course* any great distance, her object at the utmost being to lose as little ground as possible, so that she may resume her voyage on the first favourable change, on which she must be dependent, neither can she afford to run the risk of being becalmed, which to her would even be worse than contrary winds.

But with a Steamer, whose nature, if left to her own resources, is equal to a favourable 8-knot-an-hour breeze, the case is different; she is to a great extent independent of the direction of the wind for her onward progress; she may take any liberties she pleases with a Cyclone, *provided she does not come too near her enemy;* she may run through it or round it, or away from it, *as her Barometer will always be a sure test of the vicinity of danger*, and the veering of the wind, and the face of the heavens, will always show the quarter from which danger, if near, is to be apprehended and guarded against.

Of this an instance is given by Col. Reid at page 370 of the 2nd Vol. of his work, "The Progress of Developement, &c." in which it is stated that Capt. Andrews, of the R. M. W. I. St. Packet Co.'s Ship MEDWAY ran round the rear of a Storm on his way from Nassau in the Bahamas to the Bermudas, in Sep. 1846. In case any of my readers should not have met with this statement I quote it at length as given in the above work.

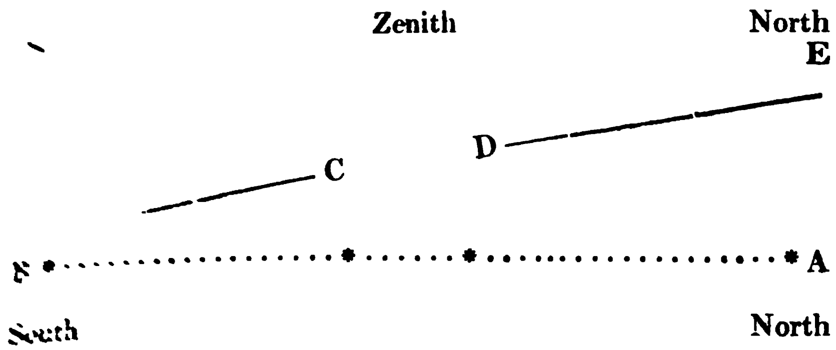
> "This packet was on her passage from Nassau in the Bahamas to Bermuda, at the time when a storm, coming from the southward, was passing between those two groups of islands. On the Bermuda side the gale veered by the south, whilst on the Bahama side it veered by the north. The Commander of the Medway, perfectly well understanding the nature of the storm he was approaching, and knowing his position with relation to the storm's centre, took in his sails, struck his yards, slackened his rate of steaming, and hove-to, waiting for the wind, which was N.E., to veer to N.W., as he knew it would do. He then bore up; ran round the hindermost portion of the storm for Bermuda, and arrived there without sustaining any injury whatever, and gave me an account of what he had done. The place where the Medway hove-to, was Lat. 27.46 N. Long. 73.26 W., at noon, on the 16th of September."

Now if this might be done in one instance by a Steamer, not merely without loss of time, but probably with a gain as the injuries she would have received by running into the Cyclone would have caused a much greater delay than her lying to did, why should not this system be more generally adopted by Steamers on approaching bad weather?

Carrying on this inquiry, and the consideration of the manner in which they may be affected by the inclination of the plane of a Storm's area as explained at page 112, I will proceed to shew by a few additional remarks how I apply my views on this subject to Steam Navigation.

Now reverting to the Diagram at page 112, let us suppose the Storm to be travelling Eastward as before, but that the inclination of its area instead of being from the front to the rear (*i. e.* from East to West) shall be from the left to the right (*i. e.* from North to South) so that a vessel to the Northward of its axis shall be in the left-hand quadrants which are supposed to be raised off the sea, and a vessel to the South shall be in its right-hand quadrants which are supposed to be depressed, and let A B be the level of the sea, and C D the Storm's-eye, and let B C D E be the plane of inclination of the Storm's Area.

It is evident that in this case the former vessel if a Steamer, will run rapidly with a light wind and moderate breezes begining at SE with a Barometer falling rapidly, then at East with the Barometer stationary, and then at NE with a Barometer



rising, and as she is supposed to be steering Westward, and the Storm to be moving Eastward, not merely will she have the wind aft, but she will run away from the Storm as it is going in a direction contrary to her's; of this the Europa (Storm *C.* page lviii.) is an instance, she was standing Westward as the Storm was passing to the Southward of her and moving Eastward, so that she slipped along the outer edges of its Northern quadrants just before it overtook the Sea Park, whose dangers and disasters on this and the subsequent days have been alluded to already on more than one occasion.

We have other instances of this in Storm *F.* of which the Hermann ran along the North-Western edge with fine pleasant weather, as it was coming up the Coast of America between the Bermudas and the main land (page cvii.), and the America (page cxiii.) had only strong SEly breezes and heavy rain, at a time when the Frances Walker had a strong gale at NW.

The latter vessel in the case as above supposed will be delayed first by a heavy "Sou'-Wester," then by the wind drawing right a-head to West, and then will follow a heavy gale at "Nor'-West." Of this the Severn (Storm *F.* page cxiii.) furnishes an instance, as the wind veered from SW to W, and WNW, the weather getting worse as the wind drew round the compass.

In the following extract from the Log of the THAMES we have two cases of Cyclonic Storms so clear and self-evident that they require no corroboration, nor the aid of other Logs, to establish the conclusions which I propose to draw from them. This Steam Ship belonging to the fleet of the R. W. India Mail St. Packet Company, left Southampton for Bermuda, on the afternoon of Friday, Nov. 2nd, with the Barometer falling slowly and light breezes at ESE, SE, and SSE. She was therefore in the Northern and Eastern quadrants of this Cyclone, steering towards its centre. At 4 pm. of the next day, the 3rd, the wind began to veer to the Westward, so that she must have then been approaching its Southern and Western quadrants, the centre being to the South of her, and then as she stood on to the Westward, and ran away from the Storm as it began to move Northward up the Irish Channel, her Barometer rose, and the wind drew round to the WNW, and then to the NW.

We have here a case therefore of a Steamer running along the Northern left-hand quadrants of a Cyclone near its centre, and yet escaping the violence of the wind. The Barometer of the Thames after this rose steadily until the 6th, when she fell in with another Cyclone, but in this case she was on its Southern side as she had the wind from the SW and SSW, with a fresh gale for a few hours in the night of the 7th—8th, but the weather then moderated, although the Barometer continued to fall steadily until it reached 29,28 at 2 pm. of the 9th, when the wind began to veer from SW, and at 3.30 pm. it shifted suddenly to NW by N, with squalls and a fresh gale, and the Barometer began to rise rapidly. Here we have an instance of a Steamer, running through the Southern side of a Cyclone and near its centre, and yet having very little wind.

I give the Log in full as a valuable instance of the steady falling and rising of a Barometer during revolving, progressive Storms, the force of which was not great.

R. M. W. I. St. Packet Co.'s Ship THAMES.
George Abbott, Esq. Commander.
Southampton to Bermuda.

Time.	Course.	K.F.	Wind.	Bar.	
					Friday, November 2nd.
2am.			SSE	29,32	am. Light breeze and cloudy.
4				,34	
6				,36	8. Light breeze and fine.
8			SE	,38	10. R. W. I. St. Ship Clyde arrived from the
10				,40	West Indies.
Noon.			ESE	,40	Noon. Light breeze and fine.
2			SEbyE	,42	3 pm. Slipped from buoy, and set on down South-
4		10	ESE	,40	ampton Water.
6		8		,39	3.25 Passed Calshot. Struck main and mizen
8	W	8.2		,38	topmasts. 8. Moderate breeze and fine.
10		8		,37	
Midt.		8		,36	Midnt. Do. do. and cloudy.

(Log of Thames continued.)

Time.	Course.	K.F.	Wind.	Bar.	
					Saturday, November 3rd.
2am.		8		29,35	am. Steady breeze and fine
4		8		,36	4. Same weather.
6		8		,25	7.30 Observed the land about the Start.
8		8	SE	,24	8. Steady breeze and cloudy.
10		8		,24	
Noon.		8	SSE	,22	Noon. Light breeze and fine.
2	W½N	7.6	Vble. ESE	,18	Lat. DR. 49.36 Obsd. 49.25 Long. DR. 4.38
4		7.4	W	,27	4. Light variable winds and heavy rain.
6		7.4		,18	6. Thick hazy weather.
8		8		,18	8. Do. do.
10		7.6		,18	
Midt.		7.6		,18	Midnt. Moderate breeze, heavy rain.
					Sunday, November 4th.
2am.	W		NW	,19	am. Light winds and thick rain. 12.10 Stopped
4		7.6	WNW	,19	the engines to tighten the gear of starboard piston
6		8		,22	and cross-heads. 1.50 Set on.
8		8.4		,22	4. Light breeze and hazy. 7. Made all plain sail.
10		9		,24	8. Light winds and cloudy.
Noon.		8		,26	Noon. Increasing breeze and cloudy. No observation. Lat. DR. 48.7 Long. DR. 8.35.
pm.	WbS				
2	½S	6.4		,27	
4		6.4		,27	pm. Squally.
6		6.4		,27	4. Light breeze, cloudy and squally.
8		6.6		,27	8. Fresh breeze and squally, with rain.
10		6.6		,31	
Midt.		6.6		,36	Midnt. Thick squally weather and heavy swell.
	WbS				Monday, November 5th.
2am.	WSW	7	NWbW	,37	am. Strong breeze and cloudy.
	WbS				
4		7.4		,38	4. Do. and squally.
6		8		,44	
8		7.4		,48	8. Same weather.
10	WbS½S	6.4		,47	Noon. Strong breeze and passing squalls, with
Noon.	WbS	6		,45	rain. No observation. Lat. DR. 46.12 Long. DR
	SWbW½W				11.23 pm. Furled all sails.
2	WSW	5.4	NW	,54	
4	WbS	5.4		,53	4. Strong breeze and squally, with drizzling rain.
6		5.4		,54	
8	W½S	5.4		,56	8. Same weather.
10	W	5.4	WNW	,61	
	WNW				
Midt.		6		,70	Midnt. More moderate.
					Tuesday, November 6th.
2am.	W	6	NW NNW	,76	am. Moderating and more calm.
4		6		,78	4. Moderate, with calms.
6		6.4		,83	
8		6.4		,84	8, Light winds and fine.
10		6.2		,90	

(Log of Thames continued.)

Time.	Course.	K.F.	Wind.	Bar.	
					Tuesday, November 6th.
Noon.		6.2		29,95	Noon. Light breeze and fine, NWly swell.
2	WbN	6.4	W	,96	Lat. DR. 44.48 Obsd. 44.36 Long. DR. 14.12
4		6.4		,98	Chron. 13.58.
6		6.4		30,00	pm. Same weather.
8		6.4		,01	8. Light breeze and cloudy.
10		6.4	WSW	,05	10. Squally.
Midt.		6.4		,05	Midnt. Increasing breeze and squally.
					Wednesday, November 7th.
2am.	WbN	6	SWbyW	30,05	am. Fresh breeze and squally.
4		6		,00	4. Same weather.
6		6.4		,00	
8		6.4		,01	8. Moderate breeze and cloudy.
10		7	SSW	,00	10. Light showers.
Noon	W½N	7		29,98	Noon. Moderate breeze and fine. Lat. DR 43.47
2		7		,95	Obsd. 43.42 Long. DR. 17.38 Chron. 17.30.
4		7		,94	4. Moderate and cloudy.
6		7.4		,93	8. Same weather.
8		7.4		,90	10. Increasing breeze and heavy squalls.
10		7		,88	11. Fresh gales with heavy squalls.
Midt.		7		.84	Midnt. Same weather.
					Thursday, November 8th.
2am.			SWbyS	,79	am. Fresh gales and cloudy.
4				,76	4. Do. do. and rain.
6				,80	6. Strong breeze and cloudy.
8				,78	8. Same weather.
10				,77	
Noon.				,76	Noon. Moderate breeze & thick. No observation.
2				,75	Lat. DR 42.49 Long. DR. 21.12 pm. Do. & rain.
4	W		SW	,75	4. Do, do.
6				,75	
8				,77	8. Moderate breeze and cloudy, with rain.
10				,77	
Midt.				,70	Midnt. Same weather.
					Friday, November 9th.
2am.		6.4	SWbyW	,60	am. Fresh breezes, squally and constant rain.
4		6.4		,50	4. Increasing breeze and squally.
6		6		,54	
8		6		,54	8. Same weather.
10		6.4	S	,48	10. Double-reefed topsail. Noon. Same weather.
Noon.		6.4		,40	No obsn, Lat. DR 42.02 Long. DR 24.37.
2		7	SW	,28	pm. Thick weather and heavy rain.
4		7	Vble.	,30	3.30 Squally; shift of wind to NW [which brought the ship on starboard tack, and the Barometer began to rise. Ed.]
6	WSW WbyS	8	NWbyW	,40	6. Fresh gales and heavy sea.
8		5.4		,50	8. Same weather.
10		5.4		,54	
Midt.		5.4		,54	Midt. Decreasing breeze and cloudy.

(Log of Thames continued.)

Time.	Course.	K.F.	Wind.	Bar.	
					Saturday, November 10th.
2 am.		5,2		29,55	am. Moderate breeze and fine.
4		5.2		.60	4. Light winds and cloudy.
6		5.4		,61	
8		5.4		,64	8. Light breeze and fine.
10		6.		,65	
Noon.		6.		,65	Lat. DR 40.45 Obsd. 40.26 Long. DR 27.5
2	W½N	7.4	SW	,63	Chron. 26.59.
4		7.4		,64	4. Light breeze and fine.
6		7.6		,68	6. Light breeze and cloudy.
8		8.	W	,68	8, Same weather.
10		8.		,69	
Midt.		8.		,70	Midt. Light airs and fine.
					Sunday, November 10th.
2 am.	WbN	8.2	Vble.	,71	am. Light airs and fine.
4		8.4		,74	4. Same weather.
6		8.6	N	,78	6. Sighted Corvo and Flores WNW
8		8.6		,81	8. Same weather.
10		8.6		,86	
Noon.		8.6		,89	Noon. Lat. Obsd. 39.25 Long. Chron. 30.41.
2		8.6		,89	
4		8.6		,89	4. Light breeze and fine.
6		8.6		,94	
8		8.6		,98	8. Light breeze and fine.
10		9.		,99	
Midt.		9.		30,00	Midnt. Same weather.
					Monday, November 12th.
2 am.		8.6	NbE	,00	am. Light breeze and fine.
4		9.		,00	4. Same weather.
6		9.		,04	
7			NE		
8		9.		,04	8. Moderate breeze and fine.
9			E		
10		9.		,04	Noon. Steady breeze and fine. Lat. Obsd. 38.12
Noon.		9.		,04	Long. DR 35.13 Chron. 35.9.

Wm. J. Bennett, Passed Midshipman.

At page 111, I have remarked that when Cyclones originate within the Tropics they are *horizontal,* but that beyond the Tropics they are inclined; and that whereas in the former case their force is the same in whatever portion of them a vessel may be, in the latter it is generally the reverse, and that on one side of a Cyclone one vessel may have the full violence of the Storm, and on the opposite side another vessel may have very little of it.

This distinction was not intended by me to apply to the degree of Latitude in which Cyclones originate, so much as to the fact that when Storms *originate within the Tropics they originate in the open sea*, and that until they quit the Tropics their Cyclonic nature is not disturbed, and the remark applied to those Storms which are encountered before they have passed over the main land, as distinguished from those which are either approaching the main land, or actually come down from it to the sea, and whose course has therefore been more or less influenced and disturbed by the great valleys or chains of mountains near which they have passed, because the greater number of Storms which are met with in the North Atlantic belong to the latter class, and therefore they are the more important to those who are engaged in the Trade between the Old and New World.

That a Tropical Cyclone moves horizontally, and that the wind on the opposite sides of it has the same force, are generally speaking, facts so well established that is merely wasting words to discuss these questions.

But when Storms are encountered after they have quitted the Tropics, as is the case with Hurricanes off the Coast of America or in the open sea of the North Atlantic between Newfoundland and Ireland, it will be found that their unequal force on different sides of the Cyclonic area may be attributed to one of two causes.

Firstly, if it be a Cyclone moving from the West Indian Islands over the Bermudas, or along the main land of the United States, the direction of the wind in the Western side *(i. e.* the left-hand hemisphere) will be modified by the range of the land as the wind draws to the Northward, so that along the Coast the wind shall actually be off shore though the Centre of the Storm shall be to seaward.

In the Cyclones of the Bay of Bengal, it is not unfrequently found (in the case of those which travel Westward towards the great promontory of Southern India) that on passing over the high lands, and on descending upon the Arabian Sea their force is not felt until a considerable distance to the Westward of the Malabar Coast.

In a similar manner we have therefore the second cause which explains the unequal pressure of the wind in some of the North Atlantic gales, viz. that they come down from the main land, and are launched as it were upon the Ocean.

Now if we refer to the SUMMARY OF STORMS at Pages 87—90 of Chapter I. we shall see that of the eleven Storms whose tracks are there enumerated, four of them, *A, B, G, K,* came from off the main land, or in fact came down the Valley of the St. Lawrence, two of them *E*, *F*, travelled upwards along the Coast of the United States, and that the other five, namely *C*, *D*, *H*, *I*, **K*, originated in the open sea, so far at least as I have been able to trace them backwards; possibly, however, some of these may have come from a point still further Westward, and furnish additional confirmation to the above supposition.

Inasmuch then as the origin of six, possibly of more, of these eleven Storms may be referred to one or the other portion of the Western Hemisphere, i. e. either to the sea Coast of the United States and the Gulf of Mexico, or the River St. Lawrence and the great valley of the chain of inland Lakes, I propose to account for their non-horizontality by one or the other of the two above-mentioned causes.

And firstly as regard those Storms of which the front or side quadrants are lifted up on approaching the land, I think there can be but few persons who have not noticed that wherever a wood or plantation is near the coast the exterior portion of it nearest the sea always presents a clipped appearance as though it had been cut closely by a pair of shears, and that this smooth surface is not horizontal but has an inclination slanting upwards from the sea inland, and commences on the ground, or from the boundary fence, be it a hedge or wall, which gives the wind a direction upwards, so that at a short distance from the outer edge of the wood or plantation, this shorn appearance is far less perceptible, and perhaps even ceases to be noticed at all, except by a very close inspection.

So well is this protective power of the outer fence known to all concerned with plantations near the sea, that it is usual to build a wall or a stout bank on the sea-ward side of all young plantations near the coast.

In the same manner in which a fence operates to protect a young plantation against the sea breezes, by directing the stroke of the wind upwards instead of allowing it to continue horizontal, so does the coast operate to protect the land to leeward from the force of Rotatory Storms, by giving them an upward impulse as they arrive from the Ocean, so that they do not float horizontally over the main land, but drag over it inclinedly, much in the same way as the tail of a paper-kite drags along the ground whilst the kite itself is still suspended in the air.

It is well known that out of the Tropics Storms generally travel from West to East, and it is equally well known that the

Western shores of the great Continents generally rise very rapidly from the Ocean, as though they had been so formed by the Creator's hand to serve as a fence and screen to his creatures on shore.

But not to be lead into a discussion on a topic which is rather the province of the Christian Moralist than of Meteorology, I would notice how much this upward tendency of Storms is accelerated when they come in contact with great Natural Vallies, on the conformation of which I may be permitted to offer a few remarks, and also on the connection between the tracks of some of these Storms and the physical outlines of great ranges of elevated land.

For instance, Storm *A* on reaching Europe travelled up the Valley formed on the right by the Coast of France, and by the great mountain chain of central Europe, and on the left by England; i. e., it moved along the British Channel, over Holland, and up the Baltic.

Storm *B* on reaching the shores of Ireland, being checked by them in its onward progress turned Northward, and went off towards Norway.

Storm *C* on overtaking Storm *B*, which lay to the Northward of it, turned Eastward, and travelled along the great central valley of Ireland from the Shannon to Dublin, and thence along the borders of Scotland and England, by the valley South of the Cheviots.

Another great valley is that formed by the Pyrennees on one hand, and the high ground of Normandy on the other, and though it so happens that neither of the Storms of this series moved that way, I have no doubt that many of those which originate in the Eastern Atlantic might be traced in that direction, and it is to this class that I attribute the hot unseasonable weather which not unfrequently prevails towards the end of December, to the loss and inconvenience of poulterers and other purveyors of Christmas cheer. It is evident that a Storm coming from the Westward over the Bay of Biscay and Southern France and then curving to the Northward, would bring with it fog and rain, and tend to raise the temperature above the average.

It might be interesting to compare the Gales of the Gulf of Lyons with those of the Bay of Biscay, and to ascertain the connection between them. The right-hand semicircles of the latter being diverted from their true course by the high grounds of Western and Central France, would curve away to the South-

East, and travelling up the valley of the Garonne, form those violent and sudden Storms for which the Gulf of Lyons is so celebrated. I have had very little opportunity of prosecuting this branch of inquiry, but the investigation would be worthy of the distinguished officer who is now the chief of the Hydrographical Office of the French Marine, who would bring to it that practical knowledge of the subject which by his residence in the West Indies he has been able to combine with high scientific attainments and great political and professional influence.

The Straits of Gibraltar form another great valley between the high lands of the interior of Africa and those in the South of Spain; these last by giving an upward inclination to the left-hand quadrants of Storms arriving from the Westward produce the heavy Westerly gales which are so fatal to vessels off the Southern Coasts of that Peninsula.

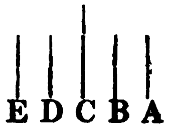
The Hurricanes of the Bay of Bengal and of the China Sea, the only portions of the Eastern world in which inquiry into the tracks of Storms has yet been carried onward to the main land, are also instances of the influence which great vallies have on the course of Storms. The former generally travel either in a Northerly direction towards the head of the Bay and up the valley of the Ganges, and the other rivers of North-Western India, or else they move up the vallies of the Madras Presidency towards the great hills of the Western Coast, but I believe there is no case yet ascertained of their moving Northward after they once reached that range. The latter which generally come from the South-east, viz. the Philippine Islands, are either deflected Northward along the Coast, or else they travel up the Canton river, or else they keep along the Southern shore of China, and go away Westward into the Gulf of Tonquin. Of each of these instances are given by Mr. Piddington in his Seventeenth Memoir.

It has been noticed at Pages 61 and cxxxviii. that on the 13th April, when the Avon from Bermuda to Southampton overtook Storm *I*, although the weather grew worse her Barometer continued to rise.

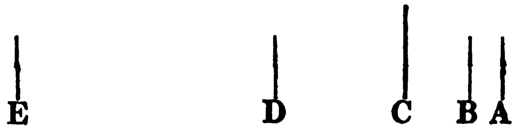
It will be seen that the Storm's-eye was to the Eastward of her in Lat. 42.00, Long. 37.00, moving nearly in the same direction as the Avon, viz. to the Northward of East, but at a more rapid rate, so that it outstripped the Avon, and therefore as the Avon became more distant from the Storm's centre the atmospheric pressure increased, but as the Diameter of the Storm expanded this vessel encountered the bad weather of its hinder quadrants which did not travel onward at the same rapid rate as the front of the Storm.

This would aeppar to be a convenient opportunity for introducing a few remarks on the *Expansion of Storms.*

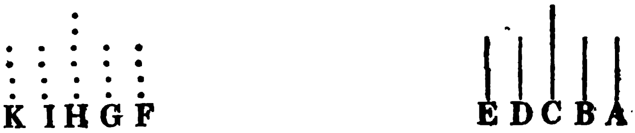
In the annexed Diagram let the five lines A to E represent a file of five men walking at equal distances from each other, say one foot apart, at an equal pace, so that there shall be preserved the same space between A and C as between C and E.



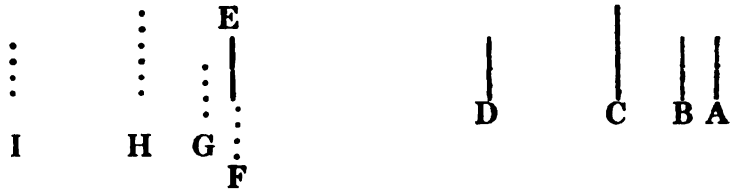
But supposing from any cause whatever, either their unequal stride or the impediments of the street, the rear files are unable to keep up with the front ones, and that they gradually drop behind as they are further from the leader, so that though B shall still be able to keep at his proper distance from A, yet C shall be two feet from B, and D four feet from C, and that this gradually increasing interval should extend from the front to the rear, it will follow that though C will be only three feet in the rear of A, he will be 12 feet in advance of E.



At page 29 I have stated how I overtook twice in the same afternoon of the 4th April 1850, the rear quadrants of Storm *C,* the front of which must have advanced at the rate of forty miles an hour. Now, instead of one file of men let there be two, and let them be marked F, G, H, I, K, and be one foot apart, and let F, the leading man of the second file be ten feet in the rear of E the rear man of the front file.



It is evident that so long as these ten men preserve their proper pace of march, their respective distances from each other will be maintained, but that as soon as C shall have dropped three feet in the rear of A, and E 12 feet in the rear of C, that F will have come up with E and will tread on E's heels, or else F must wait to allow E to get on out of his way, or else F must turn aside in some other direction if he wishes to pass.



But if instead of representing two files of men, the lines A—E, F..K, be two Rotatory Storms, of which C and H shall respectively be the centre, and A and F the front and E and K the rear quadrants,it will be seen how as one Storm expands from the slower advance of the rear quadrants, it will be overtaken by one coming after it, as the axes of all Storms in any given portion of the globe have the same general direction (e.g. those of the North Atlantic beyond the Tropics to the North-and-Eastward) and therefore each Storm will overtake one of the rear quadrants of that which has gone before it, i.e., either the Southern or Western, according to that portion of the world towards which the one has departed, and from which the other is approaching.

The Expansion of Storms has attracted the less notice of writers, partly because those which they have hitherto traced have chiefly been Tropical Hurricanes whose rate of progress being slow has therefore been regular, and whose whole area has therefore moved on together in their original circular form, and partly because in representing them in the charts they have more easily laid down circular lines than any other curves, and therefore readers have naturally and readily fallen in with the popular and preconceived idea that the *circular* form of Rotatory Tropical Storms is maintained after they have reached the open seas of higher Latitudes, and under all circumstances.

In charts showing the progress of any great Storm the line of track is generally left white, and the part beyond the area of the Storm is shaded; by this plan the eye is enabled to embrace immediately not merely the extent of the Storm but the manner in which it widens out, which is but slowly at first, but more rapidly as it moves away from the Equator.

This however, although it shows well the *expansion of the side quadrants of a Storm*, does not touch the question of the *expansion of its rear quadrants*, which is a point well deserving of inquiry, but somewhat difficult of investigation, inasmuch as the rear quadrants of an extra-tropical Storm will generally be flattened or otherwise modified by the pressure of the succeeding Storm.

Writers have hitherto conducted their inquiries on the supposition that only certain individual Storms were Cyclonic, and that this Cyclonic nature was confined to certain Storms of peculiar and unusual violence, and *consequently they have limited their inquiries* (not in every case certainly, but generally speaking) *to one Storm at a time*, not taking into their consideration the state of the Atmosphere beyond the area of the individual Storm which formed the subject of their investigation, although possibly other Cyclonic Storms might be in movement simultaneously at no great distance.

If we turn to the SUMMARY OF STORMS at Page 87, we shall see that on the 30th March Storm *A* was to the Westward of these Islands, and that the Griffon was in the centre of it in the afternoon of that day in Lat. 52.00, Long. 16.00. At this time Storm *B* was raging over Newfoundland, and the Wellington was lying to in a tremendous hurricane in its southern quadrants. On this day also another Storm was passing over the Havannah, where a violent South wind blew into the bay, doing much mischief; several small vessels were sunk, the shipping and steamers were in great danger, and large trees were torn up by the roots.*

In the same way we find that on the 8th of April, when Storm *E* was in Lat. 49.00, Long. 9.00, i. e. West of the Scilly Islands and South of Cape Clear, Storm *F* was in Lat. 47.00, Long. 50.00, i. e. over Cape Race in Newfoundland, and Storm *G* was in Lat. 48.00, Long. 76.00, i. e. over Lake Ontario.

In the same way, on the 14th, when Storm *H* was in Lat. 57.00, Long. 10.00, i. e. to the North-west of Ireland, moving over the Western Isles, Storm *I* was in Lat. 46.00, Long. 26.00, i. e. to the North of the Azores, Storm *K was in Lat. 38.00, Long. 50.00, i. e. to the West of the Azores, and South of Cape Race, and Storm *K* was in Lat. 46.00, Long. 63.00, i. e. between Halifax and Charlotte Town, in Prince Edward's Island.

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* This probably was the first part of Storm *E*, which would be travelling Northward over the Gulf of Mexico: it is further stated, that on the 31st at Noon, the Storm increased and raged furiously, with torrents of rain, thunder and lightning.

From there being therefore several Storms in movement at once, it follows that their exterior form must have been much affected by each other, and that no one of those above described can have been circular, although for reasons already given such a figure is the one most conveniently delineated on the Chart, however incorrectly it may represent the truth; and therefore however justly the words *Cyclone* and *Cyclonic* may designate horizontal Storms within the Tropics, it appears to me to be rather a misapplication of language to use them in reference to Storms of higher Latitudes, which, though most undoubtedly Rotatory and Progressive, are more properly oval and spherical, or more like a comet in shape, and of which the quadrants will generally be inclined at a very great degree from the surface of the sea, and whose progress, instead of being at an uniform rate as are the Cyclones of the Tropics, will depend much on the position of the Storms in advance of them, by whose influence they are liable to be turned aside, delayed, or absorbed.

This leads me to speak upon the Theory of *The Deflection of Storms*, meaning thereby the Law of Nature which regulates the courses of Rotatory portions of the Atmosphere.

It is well known that the Cyclones of the West Indies travel from Eastward to Westward, until they approach the shores of North America; that then they generally curve towards the North, and then they travel to the Northward and Eastward. Those Storms which originate beyond the Tropics also travel Northward and Eastward, as has been shewn already in the SUMMARY OF STORMS at Pages 87—91 of Chapter I. Now of these, Storm *A.* was travelling nearly due Eastward when it was overtaken by Storm *B*, which was also travelling Eastward and which therefore fell in with the Western side of Storm *A.* and therefore was encountered by a draught of wind from the Eastward. Storm *B.* therefore being unable to pass onward into that portion of the firmament pre-occupied by Storm *A.* turned aside, i. e. *was deflected* from its true course, and moved Northward towards Norway.

Storm *C.* which came from the Southward and was travelling Northward, ran into the Southern quadrants of Storm *B*, at that time lying over the Hebrides and the North-west of Scotland;

being stopped by the Westerly and North-westerly draught it turned aside and travelled Eastward.

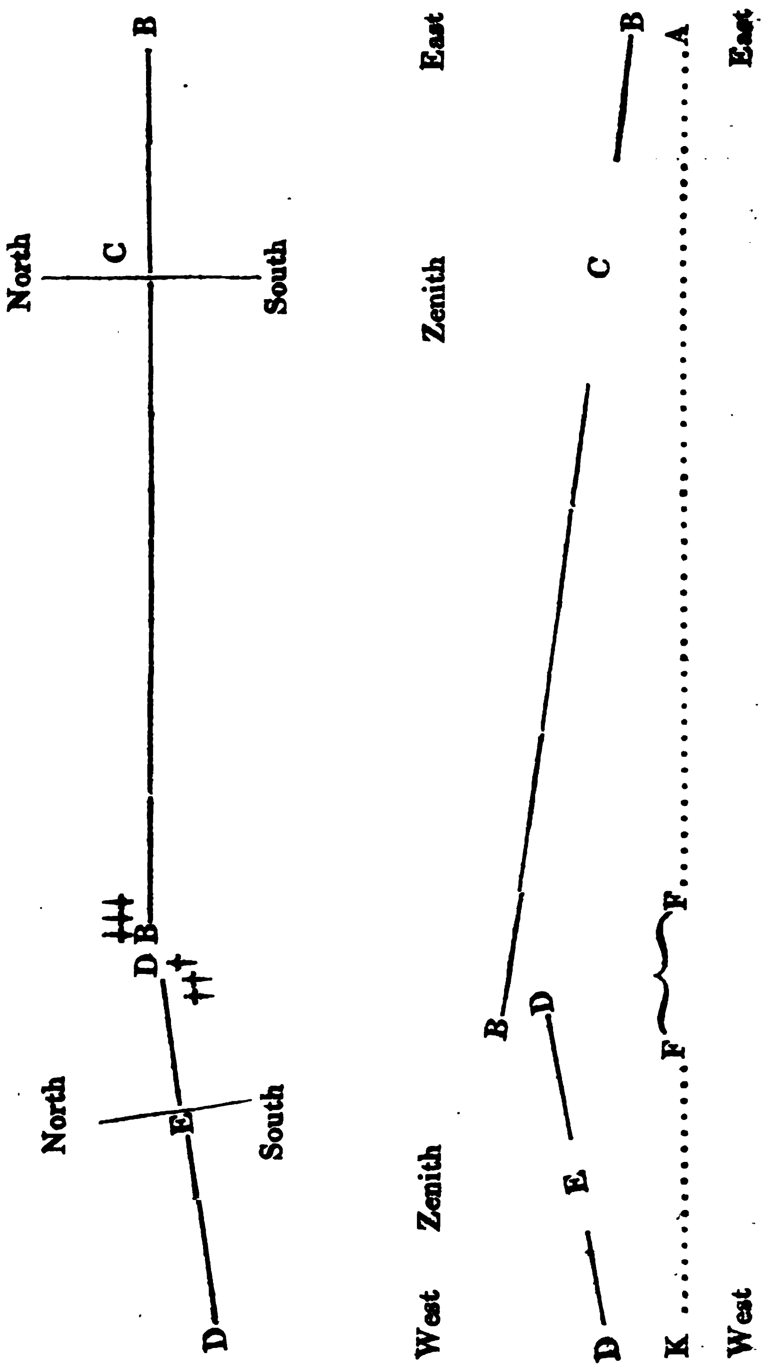
In like manner Storm *D.* was deflected to the Northward on overtaking Storm *C.* which had travelled Eastward.

Few people who live much in the open air can have avoided noticing occasionally the different directions in which the scud (i.e., the light misty clouds of the upper sky) is observed to move. Having paid much attention of late to this subject, I have found that this appearance generally coincides with the interval between two depressions of the Barometer, viz., the cessation of a rise, and previous to a fall. If we have recourse again to a Diagram similar to those already used, we shall see this more clearly explained. We have here the Storm *A* with its front quadrants depressed, and Storm *B* following with its front raised, and it was probably owing to this check in its onward progress and consequent recurvance Northward that the violence of the wind in its Western quadrants was much greater than in its Eastern; as will be seen by a comparison of the Log of the Griffon with the Light-house reports of the South of England.

Now, supposing any one had happened to observe the different directions in which the light clouds would be moving at the time when Storm *B* overtook Storm *A*, it is probable that there would be a light fringe of white clouds in the North-east slowly travelling towards the West, and another set of misty light flying clouds gathering in the South-west which would soon cover the whole sky. This is so common an occurrence that it hardly needs to be pointed out to secure the general acquiescence. If as is not uncommonly the case the former state of the sky continues for several days with an Easterly or North-easterly wind it is due to the tranquil state of the Atmosphere to the Westward, which is not yet prepared to send forth another deluge of wind and rain, the precursors of some fresh convulsion.

It is to the encounter between two Rotatory Storms that I attribute those electrical operations of nature which in these Latitudes produce *Thunderstorms.*

The mode by which these are produced will perhaps be more clearly explained by the following diagram in which let A.... K represent the undulating surface of the land, and let F F be a ridge of high ground having on it an Observatory, and let the upper part of the diagram represent an horizontal view as of a chart on which the tracks of the two Rotatory Storms B B D D


North
C
South
B
D
B
E
North
South
D
West
Zenith
East
Zenith
C
B
B
D
E
D
K
F
F
A
West
East

are supposed to be laid down, of which C and E are respectively the centres, and let Storm B have passed away towards A, and be travelling Eastward, and the Storm D be approaching from the South-west, and let the lower part of the diagram represent a vertical section, extending over any distance, say a thousand miles.

Now it is evident that according to the well-established principles in such cases, the Barometer at A will be falling, at C it will be at the lowest, and that it will be rising along the line from C to F, but at F it will again have begun to fall on the approach of Storm B.

Supposing the observer at F should look to the Eastward and Northward as towards A, he will perceive some light white clouds moving very slowly from that direction, or perhaps hardly moving at all, but if he looks Southward and Westward as towards K he will perceive a gloomy appearance, with perhaps a heavy bank of clouds gathering in that quarter, and the wind will also be freshening from the South or South-west, and on looking at his Barometer which has been steady during the day he will perceive that though unusually high it is beginning to give way.

As Storm D will travel rapidly, being supposed to come from the Southward of West, the front of it will overtake the rear of Storm B, and then will arise the friction of the two currents to which I have stated that I attribute the outburst of the electrical fluid with which the atmosphere will be surcharged, and which it will pour forth on meeting with any conductor sufficient to produce such an effect as I have alluded to, such as the high range of ground on which I have supposed the Observatory F to stand.

Having paid very careful and constant attention to the fluctuations of the Barometer during the Summer of 1851, I have been able to arrive at certain conclusions in reference to indications of this invaluable instrument. That the more closely it is observed in connection with the assumption that the Rotatory Theory is of universal application so will its fluctuation be more easily explained and accounted for, is only the conviction with the enunciation of which I set out at the commencement of this Memoir; but having this conviction in my mind as the basis of all Meteorological inference, I devoted myself through the past year of 1851 to the daily observation of those Atmospheric phenomena which Englishmen call "The Weather" and the results of these observations having been published weekly in the Gardener's Chronicle, there can be no ground for the assertion that they were subsequently manufactured to serve a purpose. Not that I could suppose so unfair an imputation would be cast upon a *bona fide* endeavour to elucidate the mysteries of Nature, still it is well known how many prophecies are thought to have been made after the completion of the events to which they refer, and many opinions have been put forward with claims for great sagacity, which it is suspected were never formed until every thing was over and the conclusion known.

Trusting therefore that these remarks will be received by my readers in the spirit with which they are submitted for their consideration, I propose to give in explanation of my meaning an account of one of the most remarkable thunderstorms that has occurred during the past summer of 1851.

The afternoon of Saturday, June 21st, was bright and beautiful, and although one of the five shilling days of admission at the Chrystal Palace where the crowd was consequently much less oppressive than usual, the heat was most intense in the building, what light breeze there was being from the Southward, more like the Sirocco of Naples than one of the days of our own Island. On the Monday morning I received from my observer near Dorchester, the following record

Day.	Time.	Bar.	Wind.	Remarks.
Fri. 20	5.30 p.m.	29,98	SW	Gentle, clear cloudless sky, hot.
	8.	,94	S	Gentle, clear, warm.
	10.30	..	..	Do. Clear starlight.
Sat. 21	7.15 a.m.	,75	SE	Gentle. Bright sunny morning.
	1.55	,70	S	Almost calm. Cloudless, hot summer day.
	11.30 p.m.	..	..	Do. Very hot. Cloudless.
	3.	,69	SSW	Gentle. Overcast, hazy.
	3.30	..	..	Foggy.
	6.30	,61	SW	Brisk. (Fog cleared away soon after 4.) Now open clouds passing swiftly (a little hazy.)
	8.15	..	..	Brisk. Overcast. Small drizzling rain.
	10.10	..	..	Moderate. Small drizzling rain, very dark night, glass appears less depressed.
Sun. 22	7.50 a.m.	,73	NW	Brisk. Cloudy. No appearance of rain having fallen during the night.
	10.55	,79	..	Brisk fleecy clouds, fine and sunny.
	1.30 p.m.	,82	..	Do. bright blue sky, nearly covered with large white masses.
	5.10	,86	N	Stiff breeze, bright sunny afternoon, a few fleecy clouds.
	7.	,91	..	Do. &c.

which I communicated to Col. Reid as an instance of a "Rotatory Storm passing over this Island, of the nature of which there could be no doubt as the wind veered gradually round the compass as the Barometer fell and rose again." The Colonel admitting that it was "Rotatory," objected to the term "Storm," as implying a certain degree of violence of the wind, whereas in this case the day had been calm and fine. Whilst perusing his note to the above effect, I had put into my hand a Daily Journal giving an account of a most fearful thunderstorm which had burst over Cheshire and Lancashire in the evening of that day, with the details of which it is unnecessary to trouble my readers, and which though of short duration had exceeded the usual violence of such phenomena. On the Thursday in preparing my weekly Meteorological Report for the Gardener's Chronicle, I appended to the Abstract of Daily Observations the following note:

> This Storm came from the South, travelling nearly due North, having its central line to the Westward, over the Irish Channel probably; or perhaps even to the West of Ireland. Although in London it produced no visible result, being limited to a most intense degree of suffocating heat, in Cheshire and Lancashire it burst in a most tremendous hurricane of thunder and lightning. This extreme heat is easily explained, as are also the fluctuations of the barometer and veerings of the wind, if we move a storm-card from South to North over the Irish Channel, and bear in mind that this atmospheric body was coming from the heated regions of Africa to our latitude. Dorchester, June 26th.

At the conclusion of the month I received from the Secretary of the Trinity House the Monthly Reports of the several Lighthouses, from which the following are extracts.

SCILLY ISLANDS.

	I.	II.	IV.	V.	VI.
20	30,10	56	SW	2	C
	,10	56	SE	2	BCM
	,03	64	—	3	BCM
	29,97	57	ESE	4	C
21	,82	57	E	4	BCM
	,75	66	SE	4	BCM
	,70	65	SSW	2	M
	,76	57	NW	4	C
22	,85	52	NNW	5	BC
	,91	58	—	6	BCM
	30,06	60	NbyW	6	BCM
	,14	56	—	5	BC

BARDSEY ISLAND.

	I.	II.	IV.	V.	VI.
20	29,84	54	W	5	OP
	,62	61	—	4	BCM
	,84	64	WNW	4	BCV
	,78	57	SW	3	OM
21	,70	57	W	2	OM
	,62	63	SE	1	OM
	,49	59	N	2	BC
	,45	53	—	5	OMPRT
22	,55	53	NNW	7	BC
	,65	57	—	6	BC
	,78	57	NW	3	BC
	,85	56	—	5	BCP
23	,91	53	N	4	BC
	30,10	54	—	4	BC

21 Greatest depression 29,45 at 0 pm.; began to rise at 10 pm.

SAINT BEES.

	I.	II.	IV.	V.	VI.
18	30,22	50	W	0	BC
	29,92	50	SW	2	MR
	,88	55	W	4	MR
	,80	53	—	4	BC
19	,70	56	S	6	BC
	.69	59	WSW	5	BC
	,70	60	W	5	BC
	,76	53	NW	2	BC
20	,74	51	SW	1	MR
	,74	58	W	1	C
	,74	58	—	1	BC
	,72	55	S	3	C
21	,64	54	—	3	BCM
	,55	65	—	2	CM
	,43	67	—	1	BCM
	,38	57	—	0	CM
22	,40	51	NW	5	C
	,50	60	—	5	BC
	,59	58	—	6	BC
	,70	51	—	6	BC
23	,80	49	—	5	BC
	,90	62	—	3	BC
	,90	57	—	5	BC
	,90	52	—	2	BCM

LONGSTONE.

	I.	II.	IV.	V.	VI.
18	30,25	49	WNW	4	C
	,19	53	W	4	OCDP
	,05	52	SSW	3	OCM
	29,98	54	WNW	5	C
19	,83	55	W	7	OCQ
	,78	56	WNW	9	BCQ
	,84	56	—	8	BC
	,90	53	—	8	OC
20	,94	51	W	5	OC
	,99	55	—	0	OC
	30,00	52	S	5	OM
	29,99	50	—	5	OM
21	,92	51	—	2	OMD
	,83	57	—	4	BCM
	,71	58	—	4	BCM
	.58	54	—	3	OPTL
22	,55	53	WNW	6	OCP
	,64	55	NNW	5	BC
	,77	56	S	2	BC
	,83	51	NNW	6	OP
23	,98	49	NW	6	BC
	30.05	54	NNW	6	BC
	,10	54	NW	2	BC
	,12	53	—	5	BC

21 7 pm. South, moderate; almost continued thunder, lightning, and rain until 9,30 Bar. 29,60 Ther. 55.

FLAMBOROUGH HEAD.

	I.	II.	IV.	V.	VI.
18	30,19	45	NW	5	CM
	,14	57	WNW	4	CM
	,02	56	WSW	4	OM
	29,94	57	WNW	5	C
19	,85	58	—	4	CM
	,78	65	—	8	BC
	,81	65	—	8	O
	,87	54	NW	4	OM
20	,91	49	W	2	CM
	,92	53	SSE	2	OM
	,92	59	ESE	4	BCM
	,91	52	SE	4	OM
21	,85	53	SW	2	O
	,77	60	N	4	BCM
	,64	58	S	3	BCT
	,50	54	SE	4	OTL
22	,46	56	WNW	4	C
	,59	57	NNW	5	C
	,68	54	N	2	P
	,77	52	NW	5	BC
23	,86	48	NNW	6	QPD
	,99	56	NW	3	BC
	,99	55	NNE	2	OM

22 3 am. Bar. lowest 29,46 began to rise at 5am 29.47.

HELIGOLAND.

	I.	II.	IV.	V.	VI.
19	29,86	51	WbyS	5	CM
	,77	55	W	6	CM
	,70	55	WbyN	8	QR
	,72	53	WNW	6	BC
20	,76	52	NW	5	BCW
	,83	54	—	5	C
	,92	53	—	5	D
	,95	50	NNW	3	BV
21	,95	49	NbyW	2	BV
	,97	58	S	3	BC
	,88	59	ESE	3	BC
	,78	58	SE	5	BC
22	,70	56	SSE	5	BC
	,66	61	SbyW	4	C
	,66	60	WbyN	4	C
	,63	56	—	6	Q
23	,65	50	NbyW	6	D
	,72	57	—	6	BC
	,86	51	NNW	7	BC

The explanation of the abbreviations will be found at Part I. of the Appendix to Chap. I at Page vi.; and of the Columns at Pages lxxxix and xcii. The hours of observations are 3 am., 9 am., 3 pm., and 9 pm

Subsequently I received from the Rev. Dr. Bissett, of Bourtie Manse, near Aberdeen, in Scotland, a copy of his Observations for the month of June 1851, of which the following is an extract:

Wednesday 18th. Quiet night; Light SW wind. am. Bar. 29,80 Ther. 54. Day mild, wind SE, S, and SW, very gentle, a few drops of rain. 10 pm. Bar. 29,575.

Thursday 19th. Shower in night. Very brisk wind W by N; occasional sun. am. Bar 29,25 Th 55. Most violent and tempestuous wind during day from WbN; Bar. fell till Noon to 29,25, then began to rise; wind abated a little by 3; about 6 a drizzling rain. At 10 pm. quiet. Bar. 29,625.

Friday 20th. Quiet overcast morning, a few gentle drops of rain at 8. am. Fine. Bar 29,67 Ther. 52. Mild day, evening colder, a few very light showers. 10 pm. Bar. 29,62.

Saturday 21st. am. Bar. 29,475 Ther. 54. Steady rain. mild and warm. Wind light South. Fine nourishing day, frequent light showers; wind light S and SE. 10 pm. Bar. 29,35 10.30 pm Began to rain.

Sunday 22nd. A great quantity of rain fell till 4 am. Bar. 29,30 am. Wind brisk, North-westward. Bar. 29,32 Ther. 52. Cold blustering day. Wind NW. 10 pm. Bar. 29,575.

Monday 23rd. Cold tempestuous showery morning, wind NW. Bar. 29,70 Ther. 45. Rough cold day; wind NW till 6, then a fine gentle shower. 10 pm. Calm. Bar. 29,78. J. Bissett.

These reports bear out therefore fully the inference which I had formed of the course taken by this Storm, and of its being a true Rotatory Storm, and if we apply to them the Diagram in Page 136, we shall see how practically they illustrate it.

Firstly, we have the Storm as at B B travelling from West to East, which began to reach the Western Coast of England in the morning of the 18th, and its centre passed to the Northward of England, and probably over Scotland, about noon of the 19th, and at that hour the Barometer at Bourtie was at the lowest. In Scotland and on the East coast of England the wind wasfelt much more severely than at Saint Bees on the Western, having been "very violent and tempestuous at W by N" at Bourtie, and "a strong gale from WNW" at Longstone on the Coast of Northumberland, and at Flamborough Head on the Easternmost point of Yorkshire. Next we have at Heligoland the wind veering on the same day from W by S, to W, W by N, WNW, and NW, the Barometer falling steadily, but until a later hour, as the lowest observations are 29,70 at 3 pm, and 29,72 at 9 pm, and the minimum would appear to have been about 6 pm. if we compare the observation 29,77 at 9 am. of the 19th with 29,76 at 3 am. of the 20th. Here also there was a fresh gale, as well as on the East Coast of England. There would be therefore a difference of six hours between Bourtie and Heligoland.

Secondly, we have the Thunderstorm of the 21st as at D D coming from the Southward and Westward, and overtaking the rear quadrants of B B as in the Diagram.

In addition to the indications at Page 138, we have at Scilly, and at Bardsey on the Coast of North Wales, the breeze setting in from the Southward and Eastward, continuing in that quarter whilst the Barometer was falling and shifting to the Northward and Westward as soon as it began to rise; we have the same at Saint Bees on the Coast of Cumberland, at Longstone and Flamborough Head on the Eastern Coast of England, at Bourtie and at Heligoland.

We have however a very different arrangement of the order in which the greatest depression of the Barometer as regards this Thunderstorm is recorded from that usually remarked; for whereas in Storms moving from West to East the Barometer is similarly affected at the same time in all places in the same meridian of Longitude whatever may be their Latitude, here we find that the difference is in their Latitude, and that those further North were affected later than those lying to the Southward.

Thus we see that the greatest depression is noticed at

The SCILLY ISLANDS,	on the 21st,	at 3 pm.
DORCHESTER,		6.30 to 10 pm.
BARDSEY ISLAND,		9 pm.
SAINT BEES,		9 pm. to 3 am.
FLAMBOROUGH,	22nd.	3 am. to 5 am.
LONGSTONE,		3 am.
BOURTIE,		4 am.

The following Logs of the Steam Ships of the Peninsular and Oriental Company enable us to trace this Storm still further backwards and previously to its passing over this country.

The Ganges which left Southampton soon after Noon of the 20th, had the wind at ESE and then at SW, WSW, WNW, NW by W, NW, N, and NNE; as her Barometer began to rise as soon as the wind came to WSW at 5 pm. of the 21st, at which time she was in about Lat. 48.00. Long. 6.00 W, we may therefore place the Storm's centre at that hour to the NNW of her, which would be at the entrance of the Irish Channel, i. e. about Lat. 51.00 Long. 7.00.

Penin. and Or. Co St. Ship GANGES, George Brooks, Commander.
Southampton to Gibraltar and Alexandria.

Friday, June 20th.

Time.	Course.		Wind.	Bar.	Th.
6pm.	WbS	10.4	Calm		
8	½S	10.4		30,03	71
10		10.2	ESE		
Midt.		10.6		29,96	64

am. Light breezes and fine weather. Noon. Hot and sultry. 2.50 pm. Passed out of Southampton Dock. 5. Passed the Needles. 8. Calm with hazy weather. 10. Light breeze springing up, set fore-trysail. Midnt. Light breeze & fine clear weather.

Saturday, June 21st.

Time.	Course.		Wind.	Bar.	Th.
4am.		10.4		,87	61
8		10.4	SW	,84	68½
Noon	SW	13.		,82	64
4pm.		9.4		,80	66
5		9.6	WSW		
8		10.	WNW	,87	62
10		10.4	NWbW		
Midt.		10.6		,92	60

4 am. Light breeze and fine weather. 7. Made all fore and aft sail. 7.30 In all sail. 8. Fresh breeze with fine weather. 8.45 Dense fog suddenly came up from SW with fresh breeze. 9.30 Stopped & sounded in 59 fathoms with bottom of sand and shells, went on again at half speed. 10.10 Fog clearing up went on full speed. Noon. Fresh breeze and overcast weather. Lat. Acct. 48.43 Long. Acct. 5.32 Chr. (imperfect) 5.25 Ushant Lighthouse bearing S 45 E 21 miles. pm. Moderate and cloudy. 4. Do. weather. 7. Made all fore and aft sail. 8. Moderate breeze with cloudy weather. Midnt. Moderate breeze and cloudy.

Sunday, June 22nd.

Time.	Course.		Wind.	Bar.	Th.
am.		10.2	NWbW		
3		10.6	NW		
4		11.2	N	,95	60
8		10.	NNE	30,02	58
Noon		14.		,11	59
pm,		10.2	N		
4		10.4		,17	64
8		10.2	NE	,21	62
9	SW½W	10.6			
Midt.		10.6		,22	60

am. Moderate breeze and cloudy. 3. Breeze freshening, set the fore and maintopsail and foresail. 4. Moderate & cloudy, with drizzling mist. 7.30 Up main-topgallant yard and set the sail. 8. Decreasing breeze and cloudy. Noon. Fresh breeze and fine weather with following sea.* Lat. Obs. 45.5 Acct. 45.4 Long. Acct. 8.16 Chr. 7.45 pm. Steady fresh breeze and fine cloudy weather, with much swell on. 3. Wind failing a little took in mainsail. 4. Do. weather. 6. Observed the land to SSEward. 8. Light breeze and fine weather; heavy swell from the Northward. Midnt. Fresh breeze and fine weather.

Monday, June 23rd.

Time.	Course.		Wind.	Bar.	Th.
4		11.	ENE	,22	59
8		12.		,19	61
Noon.		12.2		,15	63

2.10 am. Cape Torriano East (true) 5 or 6 miles. 3. Cape Finisterre East (true) 5 miles; altered course. 4. Light breeze and decreasing sea with fine weather. 8. Fresh breeze and fine weather. Noon. Strong fresh breeze and fine clear weather with much following sea. Lat. Obs. 41,10 Acct. 41.9 Long. Acct. 9.35 Chr. 9.31.

Thomas Black, First Officer.

* Here with fine clear weather and moderate breezes, and a sea from the *Northward*, we have a ship set 31 minutes (more than half a degree) out of her reckoning! and to the *Eastward !;* Naturally enough, if we lay a Storm-card on the Chart with the Storm's-eye in Lat. 54.00 Long. 5.00 West, the position in which this Storm was at this time. Further remarks on this subject will be found in Chapter III.

F. P. B.

The Montrose which had left Southampton on the 17th was about 40 miles North of Cape Finisterre, i.e. in Lat. 43.40 Long. 9.00 at 4 am. of the 20th, when the Barometer was at the lowest (having fallen in 32 hours from 30,40 to 29,86) with the wind at South. At 8 pm. of the 18th her Barometer was at the highest, with a moderate breeze WNW; at Midnight it had fallen one-tenth of an inch with light variable winds, and in the morning the breeze came round to SE; she was therefore on the edge of its North-eastern quadrant, and ran down its right-hand side Southwards as the Cyclone travelled Northward; at 4 am. I suppose the Storm's-eye to have been to the Westward of her in Lat. 44.00 and probably in Long. 15.00.

Pen. and Or. Co.'s St. Ship MONTROSE. John Bowen, Commander.
Southampton to Vigo and Gibraltar.

Time.	Course.	Wind.	Bar.	Th.	
					Tuesday, June 17th.
Noon.		NNW	30,35	65	Noon. Moderate breeze and fine. 2.15 Proceeded
4			,35	65	out of Southampton Dock. 4. Fresh breeze and
					fine 4.30 Passed the Needles. 6. Fresh breeze
8		NW	,20	60	and fine. 8. Do. weather. 10. Moderate breeze
Midt.			,25	60	and fine. Midnt. Same weather.
					Wednesday, June 18th.
4am.			,25	58	am. Moderate breeze and fine clear weather. 5.
8			,35	62	Light variable airs, took in the trysails and jib.
Noon.			,38	65	8. Light winds and clear weather. Noon. Mode-
					rate and fine. Lat. by Obs. 48.56 Acct. 49.00
pm.		WbN			Long. by Acct. 4.40 Chr. 4.48. pm. Moderate
4	SWbW		,39	65	and fine. 2. Light airs and fine. 4. Light breeze
8		WNW	,40	59	and fine, smooth water. 6. Do. 8. Moderate and
Midt.			,30	58	fine. Midnt. Do.
					Thursday, June 19th.
am.		Vble.			am. Light winds and variable, took in all sail. 2.
4			30,28	58	Calm and clear. 4.30 Breeze increasing, made all
5		SE			sail. 6. Moderate and fine. 10, Fresh breeze and
8			,23	67	clear weather. Noon. Do. weather. Lat. Obs. and
Noon.			,17	70	Acct. 45.44 Long. Acct 7.37 Chr. 7.32 pm.
4 pm.			,10	70	Fine steady breeze and clear, with smooth water.
8			29,98	68	4. Do. weather. 6. Moderate and fine. 8. Fresh
Midt.			,90	64	breeze and clear. Midnt. Do. throughout.
					Friday, June 20th.
					am. Decreasing breeze and fine. 3,30 Wind fall-
					ing light and drawing ahead, took in the square-
4		S	,86	68	sails. 4. Observed the land bearing SSE, took in
					the trysails. 6.50 Cape Villano bore ESE 6 miles.
8			,90	69	8. Light airs and fine weather. 10. Moderate and
					fine. 11.20 Saw the Bayona Isle bearing S½E.
Noon.	S½E	SbW	,90	72	Noon. Light airs and hazy. Salvoria NNE½E;
					Onza Isle SE by E½E. pm. Moderate and hazy.

(Log of Montrose continued.)

Time.	Course.	Wind.	Bar.	Th.	
1 pm.		S			1.17 Passed Point Hombre. Dense fog closed in, slowed the engines to quite slow and kept the leads going from each paddle-box. 2. Dense fog. At 2.20 anchored off Vigo. 2.30 More clear.
4			,93	69	3.45 The P & O. Co.'s Steamer MADRID arrived
6		SSW			off Vigo. 4.12 Up anchor and proceeded down
8			,95	66	the Bay. 8. Light variable airs.
Midt.		Vble.	,95	65	Midnt. Do. and fine; Oporto light bearing East.
					Saturday, June 21st.
1 am.		W			0.40 am. Landed mails, &c. 1.00 Set on full
2		Vble.			speed for Lisbon. 2. Light variable airs and hazy
4			,92	66	over the land.
6		Calm.			6. Calm and hazy.
8			,95	70	8. Light variable airs and cloudy.
Noon.			30,00	73	Noon. Light breeze and fine. Great Burlings bearing WSW, Cape Peniche SSW.

Benjamin Martin, FirstOfficer.

The Madrid which was coming up the Coast from Lisbon on the 19th and 20th, does not appear to have come within its influence until after she quitted Vigo in the afternoon of the latter day, when she ran into its rear quadrants. It is observable that on the 22nd at 5 am. the Thermometer of the Madrid was higher than at any time since leaving Vigo Harbour at 5 pm. of the 20th (the most sultry time of the day) though so many miles further Northward at the coldest hour of the morning and with the wind at North, but it is accounted for by the fact that on the previous evening the thunderstorm had burst over England, and the reflux current was bringing the effects of it down on the Bay of Biscay. The state of the weather also prevented the performance of divine service.

Pen. and Or. Co's. St. Ship MADRID. John Weeks, Commander.
Lisbon to Southampton.

Time.	Course.	Wind.	Bar.	Th.	
					Friday, June 20th.
Noon.		Vble.	30,00	71	Light airs and fine. Noon. Light breeze and fine. Mount Tecla S by E½E, off shore about 4 miles.
pm.		W			p.m. Moderate breeze with rising fog. 1. In all sail. 1.30. Dense fog; slowed and stood to the
5			30,00	67	Southward. 2. Clearing a little, went on. 3.30.
7		WNW			Anchored in Vigo Bay. 4.45. Weighed and set
8	NbW		30,00	64	on for Southampton. 8. Moderate breeze and
Midt.			30,00	66	variable. Midnight. Fresh breeze and cloudy.
					Saturday, June 21st.
am.	NE	NW			a.m. Moderate breeze and cloudy.

(Log of Madrid continued.)

Time.	Course.	Wind.	Bar.	Th.	
4			29,90	64	4. Same weather, hazy over the land. 5. Mode-
7		W			rate and hazy, made all sail.
8			,95	65	8. Light breeze and overcast sky.
11		WSW			Noon. Fresh breeze and cloudy; sun obscure; no
Noon.			,90	62	observation. Lat. Acct. 44.27. Long. Acct. 8.46.
pm.		NNW			p.m. Moderate breezes, dull and cloudy.
4			,93	65	4. Same weather.
7		NbW			6. Fresh breeze and cloudy.
8			,95	66	
Midt.			,94	65	Midnight. Moderate and cloudy.
					Sunday, June 22nd.
am.		N			a.m. Fresh breezes and cloudy. 3. Squally; in
3		NNE			all sails. 4. Down topgallant yards and main yard;
4			30,00	67	strong breeze* and cloudy. 8. Strong breeze and
7		N			fine. 10. *The state of the weather prevented the*
8			30,00	65	*performance of Divine Service.* Noon. Fresh
Noon.		NbE	30,08	63	breeze and cloudy. Lat. Obs. 47.11. Acct. 47.15.
pm.		NNW			Long. Acct. 6.52. Chr. 7.13 p.m. Strong breeze
4			,10	63	and fine. 4. Same weather. 6. Same weather.
8	ENE		,20	62	8. Fresh breeze and fine.
Midt.			,15	66	Midnight. Fresh breeze and fine.
					Monday, June 23rd.
am.		N			a.m. Fresh breeze and fine.
4			,16	65	4. Moderate and fine.
8	EbN		,30	63	6. Same weather. 8. Fresh breeze and cloudy.
Noon			,30	62	Noon. Fresh breeze and clear. Lat. Obs. 49.21.
					By acct. 49.30. Long. by acct. 4.1. Chr. 4.12.
4			,24	62	pm. Moderate & fine. 4. Do. weather. 6. Moderate
8			,20	60	breeze and clear. 8. Light and fine. 9.45. Made
					Portland Lights, bearing N E by N.
Midt.			,25	62	Midnight. Moderate and fine.
					Tuesday, June 24th.
4am.			,30		5.15. Entered Southampton Dock.

James D. Steward, First Officer.

* *At 4 a m. the Thermometer stood at 67, (higher than at any time since 5 p.m. of the 20th, in Vigo Bay,) and with a Northerly wind too, but during the earlier part of this night it was that the Thunderstorm burst over England. F. P. B. M.*

Besides being Progressive, this Thunderstorm was Rotatory, for the conclusions which we may draw from the consideration of the observations at any one point are confirmed by a comparison of several of them taken together.

Thus if we take the afternoon of Saturday, June 21st, in Scotland and the North of England the wind was still S & SE, at Dorchester S and SSW, at Scilly SSW, to the Ganges SW and WSW, to the Madrid NNW.

It was therefore a Progressive Rotatory Storm, travelling from South and West to North and East as supposed at Pages

136-7, and if we consider the ridge of high ground as at F F to represent the mountainous district of North Wales and Central England we have the conductor which drew downwards the electrical fluid with which the atmosphere was surcharged and which had been generated by the friction of the two Rotatory Currents as at D B.

The principles which I have laid down in explanation of the *Expansion, Inclination* and *Deflection* of Storms, and to which I have applied Storms *A, B, C,* &c. may be equally illustrated by any other Storms of this series, but to have gone through the whole of them would have added unnecessarily to the length of this work. From the same wish to avoid an unnecessary accumulation, I have forborne to apply these principles to the Extra-Tropical Storms of other portions of the Globe; it is evident that if the explanation I have already given be correct, and the principles which I have laid down, be well established in respect of one part of the Globe, the same Nautical Phenomena will apply universally.

One objection which will probably be brought against my supposition "that all Storms are Rotatory" will be that "in certain parts of the World such Storms never occur."

Of course this objection would be a formidable one could it be substantiated, but just as it might be difficult in such an argument for my opponent to prove his negative, so it is difficult for me to prove that in all parts of the World they do occur. The utmost that I can fairly be called upon to make good is, that in all the great Marine Basins, as they are Geographically denominated, there are on record facts so far consistent with this a sertion, that it is for my opponents to explain them away.

Keeping then in mind this objection, I have extracted such Logs relative to Storms in parts of the open sea in which those Cyclones have not been supposed to exist, as have come under my notice during my researches.

Firstly, the Log of the Sir Edward Parry at Page 109, presents a Rotatory Hurricane off the Cape de Verde Islands, i.e. *on the Western Coast of Africa, in the North Atlantic Ocean.*

Secondly, the following Log of the Randolph gives a Rotatory and Progressive Storm *on the Western Coast of Africa, in the South Atlantic Ocean.*

It is evident that this was a Cyclone travelling from Westward to Eastward with a Southerly direction, because the Barometer rose as soon as the wind came to that point of the compass which would be consistent with a Storm-circle of which the axis would be at right angles to a line also at right angles to the direction of the wind. This Cyclone had probably formed to the Northward of the Randolph, and having recurved to the Westward of her* was moving Southward and Eastward towards the Cape of Good Hope. It would be an interesting study to collect the gales off the Cape of Good Hope for a few weeks, and see how far the *Theory of Inclination of Axis* applies to them, and also how far it accounts for their apparently Non-Cyclonic properties.

RANDOLPH, W. Dale, Commander.
From London to Port Philip, (with Convicts.)

Time.	Course.	Wind.	Bar.	Th.	
					Sunday, June 24th.
Noon.	SE ½E 8.4	NNW	30.48	69	Noon. Lat. Obsd. 31,19 S Long. Chr. 11,3 W Fine steady breeze and pleasant weather. pm.
pm.		N			Do. weather.
					Monday, June 25th.
Noon.	10		30.42	67	am. Do. weather. Noon. Lat. Obs. 32,10 Long.
1 pm.		NNW			6,41 W pm. Do. weather, breeze gradually increasing.
					Tuesday, June 26th.
					am. Increasing breeze and squally, with unsettled appearance. Daylight. Strong breeze. 8. Do. weather, with light rain. Forenoon. Heavy rain,
Noon.			30.18	66	Noon. Heavy rain, sun obscure. Lat. Acct. 33,20
1 pm.		NW			Long. 2,7 W pm. Sudden shift of wind to WNW.
2		WNW			Trimmed sails. 2. Finer weather; set main royal, foretopmast and lower studsails. 5. Main-topgallant
8		W			mast went in sheeve hole. 8. Increasing
11		WSW			breeze and squally; in studsails and topgallant sails. Midnight. Do. weather.
					Wednesday, June 27th.
1 am.	10.4				am. Strong winds and squally. In mizen; nasty sea, ship wetting a good deal.
4	10				4. Decreasing breeze, shipping a good deal of water. 8. More
Noon.	8.4		30.27	60	moderate. Noon. Moderate and fine, experienced strong Northerly set. Lat. Obsd. 33,18 Long. Chr. 1,54 E.
					Thursday, June 28th.
am.		SW to NW	30.24	59	am. Ship rolling a great deal, wind variable SW to NW. Noon. Lat. Obsd. 33,54 Long. 4,21 E.

T. S. Scott, Mate.

The Rollers at Ascension and St. Helena (See Law of Storms, 3rd Edit. 1850, Page 504,) which are stated "to come from

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* This is the same track as that followed by the Cyclones of the Mauritius and the Indian seas, which on recurving move Southward and then travel Eastward.

Leeward," that is the North-Westward, would possibly be formed by the rear right-hand quadrant of a Cyclone formed to the Westward of those Islands, and travelling away from them towards the Coast of South America. This suggestion I merely throw out for the consideration of others, being quite unacquainted with the Meteorology of this part of the South Atlantic Ocean with the exception of the facts just referred to.

Thirdly, at Page 148 in the 6th Chapter of the above Volume, are two cases of Rotatory Storms in the *South Pacific Ocean*, which, though almost solitary instances, are sufficient to refute the objection derived from the supposed non-existence of such Storms in this locality.

This impression has arisen, however, rather from the want of persons to collect materials, than from their being no materials to collect, as I conceive that the navigation of the Pacific Ocean has hitherto been chiefly limited to a class of seamen who have not directed their attention to scientific pursuits; but as the Trade between the Western Coasts of America and China India and Australia increases, and as ships of larger tonnage are employed for this purpose commanded by men of superior education, it is to be anticipated that more details will be recorded, as well as better and more frequent opportunities be furnished for observing such matters as have a bearing on scientific inquiry.

Fourthly, in the *North Pacific Ocean* the following Log of the Wisconsin gives a Rotatory Hurricane travelling from Eastward to Westward, into the hinder portion of which she sailed at the time it was recurving from the Equator towards the Pole. The statement of Captain Mumford bears out the correctness of the Theory, and shows how much more reasonable it is to extend than to limit the application of a well-established principle.

The Ship WISCONSIN, from San Francisco in California to Hong Kong, in the month of September, 1850, was running along the 20th parellel of North Latitude, and there encountered a Storm, of which I subjoin the details, copied from the Abstract given by her Commander to the friend by whom they were communicated to me. It will be seen that shortly after leaving the harbour she fell in with a Rotatory Storm, as the wind veered round the compass slowly from SW to WSW, W by S, W, W by N, WNW, NNW, N and NNE, ending with the phenomenon known to seamen under the name of Current Ripples. As her Barometer fell until the wind came to

Abstract of the Log of the American Ship WISCONSIN. (In Nautical Time.)

Date.	Wind and Weather.									Baro-	Therm.	
	First part.			Middle part.			Latter part.			meter.	A.	W.
3	SSE	1		..	2		..	2		29,85	55	
4	Light airs		oc	..		oc	..	1	c	,90	60	58
5	SW	1	c	..	2	c	WSW	3		,85	60	59
6	WbyS	3	c	W	3	c	WbyN	3	c	,85	64	64
7	WNW	2	c	..	3	c	..	2	c	,90	64	64
8	NNW	2	c	N	3	c	NNE	3	c	,95	66	66
9	NEbN	3	c	NE	3	c	..	3	c	,95	68	66
10	..	3	c	NEbE	3	c	..	3	c	,95	68	69
11	..	3	c	ENE	3	b	..	3	c	,98	69	70
12	NE&ENE	3	c	..	3	c	..	3	c	30,00	70	73
13	ENE	3	c	NE	3	c	..	3	c	29,95	71	74
14	..	3	b	NE&ENE	3	qr	NE	3	cqr	,95	73	75
15	NEbyE	3	c	NE	2	b	NEbyE	2	b	,90	74	76
16	..	2	c	NE	3	b	NEbyE	3	b	,90	76	77
17	..	3	b	NE	3	b	NEbyE	3	b		76	77
24	ENE	3	b	NEbE	3	b	NE&ENE	3	cr	,90	76	78
25	ENE	3	c	EbN	3	b	ENE	3	c	,85	82	84
26	EbyN	3	c	..	3	b	ENE	3	b	,82	80	79
27	..	3	b	EbN½N	3	b	ENE EbS	3	cb	,80	79	80
28	EbyN½N	3	c	ENE	3	b	ENE ESE	3	cr	,78	80	80
29	EbS	3	c	E	3	cr	E SW NE	2	csr	,77	75	80
30	ENENNE	2	b	ENE SSE	2	cr	ESE SSE	2	cr	,75	80	79
1st Oct.—Day missed on account of Longitude East.												
2	EbS	2	c	EbyS S	2	cr	S SW	2	cr	,70	75	87
3	ENE	2	cr	ESE SE	2	rq	SE SW	2	c	,70	76	78
4	SE SW NE	2	qr	E S	2	qr	S SE NE	2	qr	,67	76	78
5	NE ESE	3	cr	ESE SSE	3	cr	SSE S	3	cr	,70	76	77
6	S to SSE	3	qr	SW SSW	2	qr	SSW SW	3	qrc	,70	76	80

From San Francisco to Hong Kong. O. R. Mumford, Commander.

	Lat.	Long.	Currents.	Remarks.
3	37,03	124,01		Light airs. Fog. Heavy Northerly swell.
4	36,39	125,03	S 45 W ½	Light airs Cloudy.
5	34,38	125,00	S 1¼	Cloudy and overcast.
6	31,36	126,35		Moderate breeze. Smooth sea
7	30,04	128,16		Light breeze. Cloudy.
8	28,13	130,00	S 1	Current Ripples. Short Southerly sea.
9	26,31	133,12		Heavy swell from SE.
10	25,13	137,04		
11	24,19	140,40	S 40 W ½	Distance 203 Swell continues.
12	23,29	144,02	S ¼ K	Distance 191 SE sea continues.
13	22,52	147.07		Distance 174. Barometer reached its highest at 8 am, & at 4 pm. it is at its lowest, the range being 1½ tenth, SE sea continues, but not so heavy as heretofore.
14	22,14	150,23	S 81 W 1	Distance 184.
15	21,27	153,14	S ½ 1½ K	Distance 166.
16	21,12	156,10		Passed a large Shoal of Sperm Whales.
17				3 p.m. Anchored off Honolulu Harbour.
24	19,22	160,58		
25	19,16	164,46	S ¼ K	Distance 215.
26	19,08	168,02	S ½ K	Distance 185.
27	19,02	171,19	S ¼ K	Latter part, wind from ENE to EbS. Dist. 185.
28	18,52	174.52	S ½ K	Small rain; latter part heavy looking to S. Distance 201 miles.
29	19,02	177,43	N 48 W ½	4 a.m. Squally and rainy till 8 am. Wind flying to S, W, N, and E, as fast as the yards can be braced. Rain through the night. Lightning. Distance 152.
30	19,08	179,28	W ½ K	Wind very baffling, and rain. Dirty looking to South. Distance 87 miles.
1		East.		
2	19,20	179,35		Light baffling winds, and rain. Wind flying from EbS to SW in squalls. Distance 64 miles.
3	19,23	178,28		Throughout these 24 hours wind very light & unsteady flying from ENE to SE & SW. for two hours in the latter part with much rain.
4	19,27	177,09		3p.m. Squall from SW & one from NE met in full on the ship. Rain. 4 to 8 am. Sharp lightning & heavy thunder from SW. Hard rain; a bucket on the poop was filled 2½ in. deep in four hours, the wind has been flying from one quarter to the other, and the horizon burdened with dense massy clouds. Looking very wild in the West and unsettled. Distance 76 miles.
5	19,24	173,45		Stopped raining in the night. 7 am. Commenced again, and up to noon raining hard. A short Westerly sea. Weather looking unsettled.
6	19.47	171,25		Hard rain. Wind unsteady & squally. Wind flying to W for a few minutes, & then back to SW by S. A short Westerly swell. Noon, Stopped raining. Distance by Log. 120.

WSW, and W by N, I conclude that she must have been crossing the Southern quadrants of a Cyclone which was moving to the Northward, whose centre would be in Long. 126.00 W, on the 6th September.

After this her Barometer rose steadily until the 12th, when she appears to have edged down on the Northern limits of the Cyclone, which it is more particularly my object to notice on the present occasion, and which I suppose to have been moving Westward parallel to the Equator and to the track of the Wisconsin and at a speed rather faster than her rate of sailing, as her Barometer fell, though slowly, yet gradually and steadily until the 17th, and this fall continued (notwithstanding the delay of a week off Honolulu harbour, at least her log which is interrupted during that interval shews a continued downward tendency as soon as it is resumed after her departure on the 24th) until the 28th when I presume it began to recurve, and to approach in a more rapid course towards the track of the ship, as the weather which hitherto had been fine, began to change, and we find that there came on small rain, with a heavy appearance to the Southward. Though the wind continued light from Eastward, yet the steady trade ceased, and on the 2nd October it shifted in squalls to S and SW, and again back to the East. This continued until the 4th, when I suppose the Storm must have been crossing her path, and been right a-head of her, but still moving Westward. On the 8th—9th, the Wisconsin had begun to approach so near it that her Barometer had fallen to 29,40, and Captain Mumford, perceiving very bad weather to the West and WNW, then tacked to the Southward, whereon the Barometer again rose. This portion of the Log is peculiarly worthy of a close examination, not merely as establishing the existence of a Rotatory Progressive Storm in the North Pacific Ocean, but because it furnishes another instance of a Commander profiting by the correct application of well-established scientific principles in order to escape danger.

After this, for some days the Barometer remained (apparently stationary) at 29,80, but the wind moved gradually round the compass from SSW to SW by S, SW by W, W by S, and WNW, on the 13th, which change I attribute to the Wisconsin's having run across the Southern quadrants of the Cyclone whilst it was curving to the Northward, its centre being during these days (i.e. 10th—13th) in Long. 167.00W. On the 13th, nautical time, the Wisconsin having run two degrees and a half to the Southward of her position on the 8th, the wind began again to come from the Southward of West, which was owing to the Storm having moved, as I suppose, further from her, and leaving her to the Eastward of its axis; but on resuming her course to the Westward in the afternoon, the wind again drew to NW and NE, and on the following day Current Ripples are again recorded.

This Phenomenon is again recorded on the 26th, on which day the Winconsin seems to have been on the Southern edge of another Cyclone, but as she was now drawing towards the Coast of China and the Philippine Islands, the Typhoons of which are so well known, I shall not occupy my readers with the details of this Storm; I merely again draw their attention to the mention of *Current Ripples*, this being the *third time they are noticed in this one Log, in each case after a Storm, the ship being behind the Storm's centre, and in the quadrant of least danger*. On a reference to the observations I have made at Pages 148-9 on the Rollers of Ascension and St. Helena, it will be seen that the position of these Islands in regard to the Storms by which I have suggested that these Rollers may be caused, is not dissimilar to the situation of the Wisconsin in regard to the Cyclones from which these Current Ripples seem to have originated.

I believe however that Current Ripples are not known in the North Atlantic Ocean, but are more peculiar to certain narrow and confined localities of the Eastern Seas, but in confessing my ignorance on this subject, I have to crave indulgence for entering on a matter which is not exactly connected with the purpose of this Memoir.

I have also more especially to crave the indulgence of my readers for introducing in this Memoir the following extracts from the Log of the ORIENTAL, because I am aware that the inference which I deduce from it being unsupported by any other evidence, and being contrary to the usual course of Storms so near the Equator, may draw down on me severe censures. Nevertheless the facts it discloses are so entirely consistent with the inference that this was a Rotatory Storm which had formed near the Equator on the Eastern Coast of Africa about the 10th of July, and recurving Northward had overtaken the Oriental shortly after leaving Aden on the 14th, and was moving along the Coast of Arabia Eastwards and to the North of East on her port quarter, as she stood to the Southward of East towards Point-de-Galle in Ceylon, and it is so inexplicable under any other supposition that for sixty hours, from Noon of the 15th to Midnight of the 17th, she could have had a gale almost steadily from SSW, S & SW, continuing in the same quarter, although moderating, for sixty hours more *with a Barometer continuing almost steadily to rise and never falling below* 29,69, that I am induced to run a certain degree of risk in the hope that some friend under whose notice this extract may come will enable me either to establish the correctness of the above hypothesis, or else to account satisfactorily for the above very remarkable and unusual circumstances in some other way.

Extract from Diurnal Register of P. & O. Co.'s Steam Ship ORIENTAL.
From Aden to Point de Galle. 1851.

	Mon. July 14.			Tues. July 15.			Wed. July 16.		
Time.	Weather.	Bar.	Th.	Weather.	Bar.	Th.	Weather.	Bar.	Th.
2am.	5 SSW cg			2 Vble. bc			7 Sly bcg		
4	.. .. ..	29,73	84	.. Ely ..	29,74	91	8	29,71	82
6	.. .. ..			4 SSW ..			.. .. ..		
8	6 SW	,75	83	5	,76	85	9 SSW ..	,70	83
10	5 bc			6			.. .. ..		
Noon	.. .. ..	,82	89	7	,79	87	10	,73	84
2	.. .. ..			8 Sly bcg			10 SW ..		
4	4	,73	86	.. .. ..	,69	83	.. .. ..	,69	84
6	3			.. .. ..			.. .. ..		
8	2	,74	86	7	,79	81	9	,76	83
10	.. .. ..			.. .. ..			8		
Midt.	0	,74	88	.. .. ..	,73	84	7	,74	82
Course	E 2 S			E 3 S			E 5 N		
Distance	206			220			224		
Lat. by Acc.	12.33 N			12.27 N			12.49 N		
Lat. by Obs.	12.40 N			12.20 N			12.48 N		
Long. by Acc.	48.11 E			51.43 E			55.32 E		
Long. by Chro.	48.28			52.09 E			55.53 E		

(Log of Oriental continued.)

Time.	Th. July 17. Weather.	Bar.	Th.	Fri. July 18. Weather.	Bar.	Th.	Sat. July 19. Weather.	Bar.	Th.	Sun. July 20. Weather.	Bar.	Th.
2am.	7 SW bcg			6 SW bcg			4 SSW bc			4 SSW qc		
4	.. .. ..	29,73	83	.. .. ..	29,81	83	.. .. ..	29,87	83	.. .. ..	30,00	83
6	8			.. .. ..			 c			.. .. ..		
8	.. .. ..	,82	83	4	,86	84	.. .. ..	,90	80	 c	,07	84
10	.. .. ..			5			.. .. ..			.. .. ..		
Noon	.. .. ..	,85	83	.. .. ..	,85	84	.. .. ..	,92	85	.. .. qc	,05	85
2	8 SW bc			.. SSW bc			4 SSW b			.. Vble q		
4	.. .. q	,75	82	.. .. ..	,80	84	.. .. ..	,90	85	.. NE ..	,00	84
6	9			4			 c			2 Vble c		
8	.. .. ..	,73	82	.. .. ..	,89	83	5	30,00	83	0	,08	83
10	8			.. .. ..			.. .. qc			2 Vble ..		
Midt.	7	,84	83	.. .. ..	,89	84	4 .. bcq	30,00	84	.. .. cq	,07	83
Course.	E 18 S			E 19 S			E 19 S			E 16 S		
Distance.	210			262			258			252		
Lat. by Acc.	11.34 N			10,26 N			8.53 N			7.55 N		
Lat. by Obs.	11.42 N			10.21 N			8.58 N			7.49 N		
Long. by Acc.	58.31 E			62.53 E			67.24 E			71.36 E		
Long. by Chro.	59.13 E			63.24 E			67.30 E			71.33 E		

H. P. Lovell, Commander.

N.B. The Thermometer and Barometer are copied from the Official Logbook kept by Geo. F. Henry, First Officer.

Assuming then these facts to be the result of a Cyclone lying to the North-west of the Oriental, and travelling, after it had recurved, along the Coast of Arabia, we have an explanation of the cause of the great set she experienced on the 15th, 16th, 17th and 18th, as much as 42 minutes of Longitude and 8 of Latitude in one day. I venture to place the Storm's-eye on this day, the 17th, to the Northward of the Island of Socotra and to the Eastward of Aden in about Lat. 14.00 N Long. 54.00 E.

After the preceding sheet was in the press I obtained from the Marine Department at the East India House the following Extract from the Log of the H. C. Steam Vessel VICTORIA, on her run from Aden to Suez, by which it will be seen that on the 14th—15th in the Southern part of the Red Sea, there was a heavy sea caused by a strong NNW wind, which is consistent with the supposition of a Storm travelling Eastwards along the Southern Coast of Arabia, as the Western side of it would be over the Red Sea on the 14th, and the Eastern side would overtake the Oriental on the 15th—16th. It is to be observed also that whilst the Victoria had the wind at NNW on the 15th, the Oriental had it from SSW.

Sunday, July 13th.

NOON. Lat. 20.46 N. Long. 38.14.

PM. Wind Vble. NNW. Nly. 2 B C. 4 pm. B O. Sunset B C. Midnt. M W.

Monday, July 14th.

AM. Wind Northerly. NNW 2 to 4. B C W. 4 am. B C. 7.30 am. St. John's in sight, bearing NW by N.

NOON. Lat. 23.53. Long. 36.02. B V.

PM. Wind NNW 4. B V with increasing swell. 4 pm. B V. Sunset. High Peak of Berenice Mountains W by S½S. 8. C O. Midnight C O W.

Tuesday, 15th July.

AM. Wind NNW. 5 to 6. B V. with a high sea, vessel pitching deep at times, and shipping water over all. 4 am. B V. Sunrise B V. 8 am. B M.

NOON. BM. Lat. 26.10. Long. 34.53.

PM. Wind NNW 6 to 5 B V. Sunset. Decreasing sea. 8 B V. A heavy sea on. Vessel pitching deep and shipping great quantities of water. Midnight B V.

Wednesday, July 16th.

AM. Wind NNW 6. B V. 4 B V. with a heavy sea on, vessel pitching deep at times. 8 B V.

NOON. High land of Zittee. N 53 W. Lat. 27.57. Long. 33.40.

PM. Wind NNW. N by W. B V. 8. B V. Midnight B M.

Thursday, July 17th.

AM. Wind N by E. North. B V. At 9 am. anchored in Suez Roads.

The Meteorology of the Coasts of Arabia is at present so little known that it would lead me into unnecessary and extraneous discussion were I to investigate their effect on the recurvance of

Storms originating to the Northward of the Equator. In the open expanse of the great Southern Oceans, and also of the North Atlantic, it is found that Storms after recurving *travel Eastward beyond the 20th degree of Latitude, and seldom nearer than that to the Equator;* but perhaps the contact with land in this portion of the world may deflect Storms to the Eastward at a lower Latitude than elsewhere.

I have been informed however that the great sand Storms of North-Western India come from the Westward, of which I insert the following instance in the hope that it may lead to the further investigation of this subject.

In May or June (1841) at Ferozepore in Lat. 31.00 N. Long. 74.30, Mr. Harvey Greathed, C.S., in the afternoon had a tremendous sand-storm from the Westward, and about two or three hours later, at six o'clock in the evening, Mr. George Blunt, C.S., had the same storm at Allyghur, in Lat. 28 N. Long. 78 E.

The next morning at Mussouree, which lies due North of Allyghur in Lat. 30.30 on a hill 7203 feet above the level of the sea and nearly due Eastward of Ferozepore, when I rose the air was thick as a haze with dust, which it deposited on every table in the house, though there was no wind. This Storm attracted my attention, it being very unusual to have sand Storms so high up the hills, and it therefore lead me to make inquiries from my friends who lived down in the plains, which impressed the hours of the occurrence on my memory, though I forget the precise day.

W. P. Okeden, C.S.

March 15th, 1852.

It would seem that this Storm occupied from two to three hours travelling three and half degrees of Longitude from Westward to Eastward. It was therefore Progressive, and as the wind was from the Westward, the centre of the Storm (if it was Rotatory) should have been to the Northward. But I do not attempt to found any inference on it, but merely introduce it as being in conformity with the well-established principles of Rotatory Storms, and consistent with the supposition that the gale of the Oriental may have been also Rotatory and Progressive, travelling in a similar direction, parallel with the South-Eastern Coast of Arabia, with its right-hand Southern quadrants depressed upon the sea, and its left-hand Northern quadrants inclined upwards by the higher ground inland.

Having shown that Rotatory Storms are known to occur in all the great Marine Basins, and consequently that there is no ground for any argument built on the assumption that there are parts of the world in which such Storms are never known to occur, I proceed to offer in all deference what I conceive to be a just view of the practical advantage which may be derived by the Nautical World from the adoption and enforcement of these principles wherever they can be applied.

Far be it from me to suggest that any landsman can be so fit a judge of nautical matters as the practical seamen the Commanders of our hired Troopships, or that the opinion of any commandant of troops is to be set in the scale against that of the Master of the ship in which his regiment may be embarked. Still it is a well known fact, a most undeniable fact, that among the gentlemen to whom the elucidation of the Rotatory Theory is due, two at least of the earliest writers, whose authority stands foremost, are Members of the Military profession, I mean Col. Capper and Col. Sir Wm. Reid, and therefore it is not claiming too much for others of their gallant brethren to say, *that of the application of this Theory military men may at least be competent judges*, and if we reflect on the great variety of extra-professional subjects which are to be exacted from Officers of the Army as elementary portions of their education, I really do not see that Nautical Meteorology is either alien to their habits of mind or superfluous. How many instances are there on record of ships with troops on board having been saved from foundering merely by the number of soldiers who were available for working the pumps when the ship had been rendered leaky from the effects of a hurricane into which she had been brought by the ignorance or recklessness of her Commander. It is not every transport which like the Sea Park is so fortunate as to have a Commander willing to study a new Theory or able to apply it to practice, or even who possesses the moral courage to resist the criticisms or murmurings of his passengers at what may appear to them a very unnecessary delay or alteration of their course. I can readily imagine that among the passengers of the Sea Park not a few were ready to express their dissatisfaction in very unmeasured and unequivocal terms, and that Capt. Humphris had no small amount of grumbling to withstand on the 14th January, when he hove his ship to, off her course, to allow the Cyclone to move out of his way. And yet supposing he had yielded and stood on again prematurely, what disasters might he not have encountered, to what hardships might not the troops on board have been subjected, had he either from want of science, or of nerve, moved on into the Storm then raging ahead of him.

Let us suppose the somewhat similar case of a ship in sight of the land, in an intricate navigation such as in the Red Sea, or near the coral-bound shores of Australia, with which many of our seamen are not as yet familiarised.

Now it can easily be conceived that there may be a vessel bound to Sydney or Port Philip for instance, with troops or passengers or convicts on board, commanded by some very able, careful, and experienced seaman, to whom nevertheless this may be the first occasion of his visiting that country; and that from want of sights, currents, or any of the various contingencies to which Navigation is liable on approaching land, there may have been reason to suspect an error in the ship's reckoning; and that notwithstanding such grounds for suspicion and greater precaution, the vessel should have been run ashore and lost with all her cargo, and possibly considerable loss of life to the passengers and great hardships and sufferings to the survivors. As such calamities have very constantly occurred to convict ships and emigrant-ships, it requires no great stretch of imagination to picture such a case of a troop ship.

Now supposing that as the result of such a shipwreck, an official inquiry, under the authority of the Board of Trade should be instituted by virtue of the powers which were exercised under a recent Act of Parliament in the loss of the Amazon, and that it should be elicited that the Commander of the ship had been forewarned of his danger by some person on board who had had much experience in the navigation of the said coasts, and that he had been assured that he had mistaken the headlands by which he was shaping his course, and that the cause of his error had been clearly pointed out and explained to him, but that notwithstanding, either from obstinacy or contempt of theory, or pique at the interference and presumption of a non-professional man "who could know nothing of navigation or of charts," a doctor or a soldier perhaps, the Commander had persisted until it was too late to retrieve his error; with such an exposure staring them in the face, to what conclusion could the Commissioners of inquiry come, but that the Commander had been very much to blame, and that his obstinate adherence to his own opinion was very much to be regretted.

Now I really do not see that it makes much difference whether one be wrecked and half starved on a desert Island, or drowned in a Typhoon.

Possibly the latter alternative is the most objectionable; in the former case the survivors at least can give some account to the relatives of those who are lost; in the latter the suspense is so distressing that it were cruel to harrow the feelings of my readers by dwelling on its horrors. But who can have forgotten the loss of the President Steamer! and how nearly the Pekin shared her fate has already been detailed. Both of these vessels were under the control of the Government, nay more, they were probably Contract Mail Steamers, carrying Admiralty Agents I believe, but whether this be the case or not is immaterial to my argument, which is not based on the proceedings of either the Pekin or the President, further than these vessels furnish me with cases of danger needlessly incurred, and show us by what means it might have been avoided.

Now the remedy I would propose for this evil seeing that our Military Officers are required to study so many matters not strictly of a military nature, and that military men, to whom we are so much indebted for the developement of the Theory, are therefore at least competent to apply its principles is, that there should be vested in the Senior Officer in command of troops when embarked for foreign service a discretionary power to controul the proceedings of the Commander under certain limitations. Not that the Military man is to take upon himself the charge of the ship: Heaven forbid! that were indeed exceeding his jurisdiction, and going out of his own department; but he may point out, as one having authority, to the Commander, that he is steering into certain danger, and his assent may be to the professional seaman the warranty and justification of a delay of which the consequent expence and other inconveniences might otherwise be visited on him by a shortsighted or capricious owner. Why should not a military man in charge of troops be as competent to foresee danger at sea as a landsman in charge of a semaphore ashore, and if a signal made at a flagstaff on the authority of a landsman be recognized by ships in harbour as an intimation of approaching danger, why should not a similar notification be allowed when given to a Commander by the Military or Medical Officer in charge of his passengers? Why should not a soldier or a civilian be as competent to exercise responsibility afloat as on land? And as Government rarely sends out troops except in charge of duly qualified Officers, I do not see that any just objection can be raised on the ground of their inexperience to withstand the argument that the lives of passengers, of whatever description they may be, ought not to be endangered in threatening weather from that more usual cause, I mean a Commander's disinclination to lay his ship to, rather than sacrifice the advantage of a favourable wind at the loss of a few hours.

For how frequently in reading works on this subject are not we encountered with the assertion "That a Commander cannot afford to lose a fair wind for the sake of a Theory;" in other words, that because writers have laid down certain principles, for which they claim (and as many persons think justly) the weight attaching to a great invariable LAW OF NATURE, and because obedience to that Law might involve the loss of a few hours in a ship's arrival at her destination, *therefore* she may run any risks or incur any amount of damage, because that risk and damage is only an affair of the underwriters, but it would not do to offend the owner by lengthening the voyage just to humour the fancies of this or that theorist, who after all is but a landsman, and what can landsmen possibly know about ships or Cyclones, &c. &c. &c.?

In an extract from one of our Nautical Journals, sent me by Mr. Redfield, we have a tirade by an Officer against Theorists published I presume by him by way of justification for having plunged his ship in the most reckless, unscientific, and wanton manner into a hurricane, in which she suffered great damage and was very nearly lost. Now it is all very well when one is in the wrong to fly into a violent passion with some innocent byestander, and in this instance possibly it served the purpose of Captain —— to avert the just indignation of his owners from himself, and to seek to propitiate their favour by abusing Theorists; but I must beg to say, that in these days of competition it is not, cannot be, the interest of our Shipowners and Underwriters to allow Masters of Merchantmen to play these tricks with the lives of their crews and passengers, with the safety of their ships, with the value of their freights, merely for the sake of showing how ably they have extricated themselves from a danger which they never ought to have encountered.

HURRICANE IN THE EAST INDIES.

Extract from the Log of the Moultan during the hurricane 1850;—

"Sunday, February 24, 1850, Lat. 18 S., Long. 80 E.

"As the above will show strong trade from ESE, with squally weather, ship under whole sails and a topmast stunsail, bar. 29.90, no further indication of change than that the mercury had fallen one-tenth from the previous noon, and the upper clouds travelling slowly from NW, which is frequent in the trades; also a ring round the moon, with a heaviness in the atmosphere. At 2 AM. the top studsail was taken in, and driver stowed; the breeze now increasing, at 4 AM. the gallant sails were stowed, but still did not consider that there would be much increase of wind, as the glass stood high; but during the morning watch observed it had fallen a little. At 8 AM. it was set at 29,70, and, appearances being threatening, sent the flying jib and boom in, and the royal yards down, stowed the jib with extra gaskets, got the quarter-boat well secured, and cross lashings upon the spars. At noon, overcast sky, and the mercury down to 29,65 inches. The moon now in perigee. At 2 PM. double-reefed the foretopsail, and reefed the foresail; double-reefed the maintopsail, and stowed the mainsail; and by 5 PM. had the gallant-yards on deck. At this time there was a heavy sea getting up, and the ship was kept away NW, lurching heavily. In getting the gallantyards on deck the boatswain and William Calf, seaman, got severely hurt. Not being sufficient daylight to strike gallantmasts, determined to run the ship in the hope that we should keep clear of what now appeared an approaching hurricane. The small studsails were sent from aloft, and, with other sails, secured to the spars in the waist. At this period the mercury had fallen below 29 inches, the gale very heavy, and the sea rising fast; but, the ship steering well, had no apprehension of damage. At midnight the glass had fallen to 28,90 in. the direction of the gale ESE, as at the commencement. Having experienced a hurricane in Feb. 1831, in the H. C. S. Reliance, in Lat. 18 S, and Long. 86 E. (in which she suffered severely, and a staunch ship, the Guilford, foundered), was now seriously apprehensive for the future, but could only hope that by steering away WNW we should keep clear of the worst of what was now evidently an approaching hurricane.

" Monday, Feb. 25.—Towards daylight, a heavy sea filled the quarter-boat, which unshipped the davit; at 8 got the boat inboard, but, from the quantity of water falling on board the ship, was obliged to cut a plank in her, as well as the other boat. The mercury still falling, and at noon it was down to 28,55 the lowest experienced in the hurricane of 1831. The fore-gallantmast was sent on deck, but owing to the belly of the double-reefed maintopsail, with the sheets eased off, could only house the maingallantmast. The foretopsail was securely stowed, and it was now a question whether the ship should be rounded to the storm, raging with great fury, and a fearful sea. Theorists may, after a hurricane is over, by comparing the logs of different vessels, point out what each should have done to avoid the greatest strength of the storm, but I question much the possibility of doing so on this present occasion. At 4 PM. determined at all risks to round the ship to. Hauled the foresail up, hoping to get it stowed, when the foretopmast-staysail blew to ribbons, and a heavy sea striking the ship she broached to, and, to save the mainmast, the maintopsail sheets were let go, when the sail as well as the foresail were instantly blown away. The effect of the storm was now truly terrific, but up to the present time no further damage was done. The ship was now pumped out dry. During the evening the driver got adrift, and that sail was also cut away to save the mizenmast. The mercury was now down to 28,50, and continued so during the night, the wind not veering perceptibly, the ship's head steady at N to NNW. We could now only hope, during this dreadful night, that it would moderate a little with the dawn of day, but no change took place till towards noon, when it moderated to a gale. The lee bulwarks had been washed away during the night, and, immense bodies of water falling on board the ship to leeward, made it extremely dangerous to stand at the pumps. The ship was, however, pumped out as much as possible, and up to this time did not appear to have made a great deal of water. The mercury now fell to 28,20, and we were assured that the worst was yet to come. At 5 PM. the hurricane recommenced at ESE with redoubled violence, which baffles all description; and the greatest fears were entertained for the safety of the vessel. That the masts stood through this furious storm is most surprising, and nothing but the dread of the severe loss we should have felt prevented their being cut away to save the ship from apparent destruction. Another awful night was passed without the slightest prospect of abatement. The mercury continued steady at 28,20, and not before daylight of Wednesday 27th did it show any indication to rise. It is true some years have elapsed since the last hurricane experienced by myself, and time, they say, wears off the severity of a gale on a person's mind; but, making all allowances, I do not think that the hurricane of 1831 could be compared with the present one. Nothing but the extreme goodness of the Moultan, and the strength of her fastenings, saved her from inevitable destruction, and time will only show how weaker ships have fared. Many we know are not far distant, and, notwithstanding the supposed partiality of hurricanes, we dread much for their safety.

"During Wednesday, 27th, the mercury continued steady at 28,40, but there was no perceptible decrease of the storm; the ship was again pumped out, but it now became evident that the cargo had settled over to leeward, as the ship lay like a log, with lower yards frequently in the water; the lee spars were washed adrift from their lashings; the spare topmast, which had been secured in the side, was gone. Fearful for the stanchions, some of the spars were launched overboard, while two, with great danger and difficulty, were temporarily secured, and also the lee anchor, which had broken from some of its lashings. The jib-boom was now found to be broken in the cap, though it still remained. Up to the morning of Thursday, the 28th, this truly awful hurricane continued with unabated violence; and my firm conviction is, that those on board the Moultan had no conception of anything so terrific. Towards noon there was the welcome certainty of an abatement, though it was still considered a most severe gale. The sea now fell into the ship to leeward in immense bodies, rendering it still unsafe to be on deck. The ship was pumped, and the crew were enabled to return to the forecastle, having been two nights and days in the cabin. No fire could possibly be lit during the storm, but what nourishment the cabin afforded was served to the crew. The companion and skylight had been secured, but great quantities of water found its way below; not a dry spot was to be found anywhere; bedding and clothes had been wet for several days, and we were all huddled together in the cabin as we could find room. The logs of Friday, Saturday, and Sunday, the 1st, 2nd, and 3rd of March, will show what was done towards getting sail upon the ship again; but, to look around, it was truly deplorable to see the destruction that had taken place since Saturday 23rd ult. Upon examining the hull, we find the ship has worked in some places, some of the channel bolts started, bowsprit shroud bolt drawn. A heavy sea must have struck the bowsprit, as the knight-heads have opened and the bowsprit chock gone; the whole of the lee bulwarks washed away; one stanchion broke, and the rail split; gangway boards, hencoops, harness cask, with the pig-sty, and the contents of the two latter, a spare topmast, main royal yard and sail, three spare spars, a bran new topmast studsail, and a gallant ditto, all washed away; her main shroud badly chafed. In fact, it would be impossible to enumerate all the damage. The lower and topmast rigging so completely strained to the utmost, that but little goodness now remains in them; the gallant rigging and backstays much chafed in several places; the jib gear completely ruined, and every running rope either carried away or chafed, so as to require splicing in several places; much of it gone altogether. What sails remained—the foretopsail, maintop and gallant staysails—much injured by chafing; the mizentop staysail and gaff topsail in the same state; the mainsail, maintopsail, foresail, and foretop staysail and driver blown away; the jib much chafed; half a bolt of canvas taken to secure the companion; tarpaulings and mast-coats much cut with things that had broke adrift. The stores in the 'tween decks had broke loose, and the bulk-head worked so much that the shelf on which the chronometer was secured broke down, and the chronometer injured in consequence. We also find the catheads loose, the lee whisker washed away, the steering chain pillar started, the deck much chafed, the lanyards of the lower rigging and backstays all more or less injured, as well as the lower sheets. The galley partly washed away, a topmast cross-tree broken, the mizen stay carried away, also the spring maintopmast stay; the larboard lower boom with the crane washed away; the lower fore lifts carried away; the truss band of the main-yard broken, and altogether the ship in a perfect state of wreck."

"F. Y. S......, Master.

"We the undersigned fully corroborate the above statement, and feel fully confident that nothing but the goodness of the ship saved her from inevitable destruction.

(Signed) "A. T. Bird, Chief Mate.
"Hugh Grange, Second Mate.
"James Young, Carpenter.

"Moultan, at Sea, March 9, 1850."

Mr. Steward, in a private note, says:—"I shall mention for the information of theorists, that the wind (during the hurricane) was fixed at E.S.E. from the commencement to the termination of bad weather—10 days—during which the ship went over 720 miles of distance, W.N.W., out of which we could not have run much more than 200 miles."

On which statement Mr. Redfield makes these very just remarks;

For the Journal of Commerce, June 18th, 1850.

The Law of Storms, and its Penalties for Neglect.—The London Shipping Gazette, of May 30th, contains a copious extract from the *log* of the Moultan, Indiaman, which vessel encountered on the 24th of February, in the Indian Ocean, a terrific hurricane from ESE, Lat. 18 S, Long. 89 E, in which the ship continued for several days; and, in the opinion of her officers, nothing but her extreme goodness and the strength of the fastenings saved her from inevitable destruction. The captain had needlessly exposed his ship to the fury of this hurricane, and being sorely pressed by it makes this sage remark:—"Theorists may after a hurricane is over, by comparing the logs of different vessels, point out what each should have done to avoid the greatest strength of the storm, but I question much the possibility of doing so on this present occasion."

So, the good captain, despairing of remedy, gravely determined on that management which, unfortunately, afforded him the least possible chance of escape from this furious tempest.

By "theorists," the captain undoubtedly means those whose persevering inquiries have developed the actual experience of navigators, who have fallen under *different* portions of these violent tempests, and have thus ascertained that they are in subjection to a *uniform law*, which on due inquiry can be easily understood, but which he had failed to comprehend. A knowledge of this law, on his part, might have saved all the injuries and hazards which were incurred by his ship and her crew, on this occasion. His latitude, and the direction of the wind at the ship, in the commencement of the gale, indicated the courses he could have steered to avoid the strength of this tempest; or, at the outset, he could have brought his ship to the wind, on the port tack, to allow the vortex to pass him, and then resume his course preserving a safe distance from the storm. For so slow is the progress of the hurricane in that part of the Indian Ocean, as appears from his own log, that the degree of exposure in any case is actually made subject to the discretion of the intelligent commander.

Yet the captain of the Moultan, who has rendered the public good service in this publication, is far from being alone in failing to understand *a natural law*, which ought now to be universally familiar to navigators. It is almost 20 years since the chief outlines of this physical law were first laid open to navigators, and the specific application to the Southern hemisphere suggested. Since that period, there have been published the important inquiries and elucidations of Col. Reid, found in his successive works on the Development of the Law of Storms; the work of Mr. Thom on the Nature and Course of Storms in the Indian Ocean; and numerous Memoirs and works of Mr Piddington, including his "Sailor's Horn Book for the Law of Storms." Other elucidations are found in Silliman's Journal, the American Coast Pilot, and other American publications. Facilities for acquiring a knowledge of this great subject have thus been placed within reach of all inquirers, and with highly beneficial results.

Much, however, remains to be done, in diffusing this knowledge among seamen, and in making it plain and familiar to their understandings. Both in the navy and the merchant service of the fatherland much attention is awakened to this branch of knowledge, while the practical benefits derived from it are too plain to be disregarded. Nor is this knowledge of less importance in the American seas, or to American commerce. Hence our merchants and navigators will not be found insensible to its obvious utility and advantage.

W. C. REDFIELD.

Had Capt. ——— merely borne in mind the principles laid down by Col. Reid, that in a hurricane with the wind at Eastward, the centre of it must be between the ship and the Equator (*i. e.* in this case to the Northward,) and that within the Tropics Storms travel Westward, he must immediately have perceived that in steering WNW he was carrying his ship in the very direction that would bring him across the path of this Storm. Very probably he did not reflect on these principles, perhaps being laid down by a Theorist, he thought them unworthy of attention; whether from his ignorance of these principles or his contempt of them, he certainly ran up a heavy score against his owners, whereas had he kept away to the Southward until his Barometer rose, he might have chosen his own distance from the Storm's centre, and sailed round the rear of it in the same manner as did the Sea Park.

I subjoin an extract from the Morayshire which ran into the rear of this Hurricane on the 19th—24th, and had the wind at NW, at the time the Moultan had the violence of it at ESE. I know not whether it was by good luck or good management that Capt. Kirby, instead of standing on to the SW, kept away to the Southward during these five days; but by so doing he allowed the Storm to get on to the Westward, and on the 28th he appears to have recovered the steady NE trade, and to have made a good course until March 3rd, with weather as favourable as could be expected in the vicinity of such a hurricane.

During this time the Moultan was suffering all the horrors just described so graphically by Capt. —, and supposing her to have been carried 720 miles to the WNW, she must have been somewhere about Lat. 15.00 S. Long. 77.00 E. on March 3rd, at which time the gale began to subside; at least this seems a reasonable inference from the postcript to the Moultan's log.

Here Capt. Kirby's good fortune or his prudence deserted him; the Storm began to recurve, and he experienced the very disasters, of which for several days he had kept clear. At an unlucky moment he stood on into its Eastern quadrants, and from the 3rd to the 11th the Morayshire's log is not unlike that of the Moultan, except that I do not find the bad weather attributed to that mysterious agent, "Theory." But to add all these details would be unnecessary to my purpose, which is merely to meet Capt. ———'s objection, and to show that the hurricane he experienced really was Rotatory and Progressive; and moreover should I ever be able to carry into execution the project suggested at Page 92, the continuation of the Log of the Morayshire would naturally form a part of that work.

Barque MORAYSHIRE, S. L. Kirby, Commander.
Cochin to London.
(Communicated by Messrs. D. Dunbar and Sons.)

Time.	Course.	Wind.	Bar.	Th.	
					Monday, 18th February.
Noon.			30.10	83½	Noon. Light vble. airs and calms. Long. Chron.
1pm.	SEbS				83.00 E Lat. Obsd. 1.32 S. 1 pm. Light vble. breezes, with passing squalls of rain. 4 pm, Calm.
9		WNW			8 pm. Do. 9 pm. Steady breezes from the Westward; set foretopmast and maintop gallant studding sail. Midnt. Moderate steady breezes & fine weather. Set starboard lower studding sail.
					Tuesday, 19th February.
					4 am. Daylight. Moderate steady breezes & fine
Noon.			30.10	84	weather. 8 am. Do, do. Noon. Moderate steady breezes and cloudy. Long. Chr. 83.56 E. Lat.
1pm.	SSE	WbN			Obsd. 2.32 S. pm. Fresh breezes and cloudy. 4 pm. Do. do. 8 pm. Do. do. Midnight. Squally appearance; in all studding sails.
					Wednesday, 20th February.
					2 pm. Heavy squalls with much rain; in small
5am.		WNW			sails; double-reefed topsails. 5 am. Daylight. More moderate; out 2nd reef, set topgallant sails.
Noon.			30,10	84	8 am. Do. weather. Noon. Fresh breezes and cloudy with passing showers of rain; set mainroyal and flying jib. Long. Chr. 85.17 E. Lat.
1pm.		SbE			Obsd. 4.16 S. pm. Strong breezes and cloudy, with passing squalls; in mainroyal and flying jib. 4 pm. Heavy, squally, with much rain; in top-

(Log of Morayshire continued.)

Time.	Course.	Wind.	Bar.	Th.	
5pm.		NW			gallant sails. 8 pm. Do. weather. Midnt. Strong breezes with heavy squalls of rain.
					Thursday, 21st February.
Noon.			30,00	82	5 am. Daylight. Fresh breezes with cloudy unsettled weather. 8 am. Do. do. Noon. Very heavy squalls with cross sea, shipping great quantity of water, reefed the mainsail and double-reefed the topgallant sail. Lon. Chr. 86.04 E. Lat. Obsd.
1pm.	S				6.35 S. pm. Strong breezes and squally, with heavy rain. 4 pm. Sent down the mainroyal yards. 6 pm. Tremendous squalls; in courses, mizen, jib, and close-reefed the topsails. 8 pm. Do. weather. Midnt. Strong gales with a high sea, shipping great quantity of water fore and aft.
					Friday, 22nd February.
Noon.			30,00	84	4 am. Daylight. More moderate, set foresail. 8 am. Set mainsail (reefed) Noon. Strong gale, with heavy cross sea, ship pumped every 6 hours. Long
1pm.	S¼W	WNW			Chr. 86.40 E. Lat. Obsd. 7.50 S. pm. Strong gales and heavy squalls, with passing showers of
4	S				rain. 5 pm. Tremendous squalls, with heavy cross sea, shipping great quantities of water fore and aft; in courses. Midnt. Heavy gale with squalls of rain.
					Saturday, 23rd February.
Noon.			30,00	84	5 am. Daylight. Very heavy squalls, with much rain; in foretopsail. Noon. Heavy gales, with squalls and rain. Long. 86.38 E. Lat. 9.40 S.
1pm.		NWbW			pm. Heavy gales and squalls of rain. 3 pm. Shipping great quantities of water fore and aft. 5 pm. More moderate; set fore topsail. 8 pm. Gale increasing; in fore topsail. Midt. Do. weather with heavy cross sea.
					Sunday, 24th February.
Noon.			30,05	85	5 am. Daylight. Do. weather. 9 am. Set foretopsail close-reefed. Noon. Heavy gales and squally with rain; the unsettled state of the weather prevented peformance of divine service. Long. 87.27 E. Lat. 11.19 S. pm. Strong gales and heavy
7pm.	SbW				squalls, with heavy confused sea; ship pitching forecastle under; in fore trysail; the medicine chest broke adrift, several of the bottles broken. Midnt. More moderate, the sea going down a little; set foresail and fore trysail.
					Monday, 25th February.
Noon.			30,00	85	Daylight. Do. weather. Set mainsail, reefed mizen and jib. 8 am. Do. weather. Noon. Strong gales, with passing squalls; in jib. Long. 86.44
1pm.	SWbS				E. Lat. Obsd. 13.03 S. pm. Strong gales, with cross sea; ship labouring heavily. 4 pm. Ditto

(Log of Morayshire continued.)

Time.	Course.	Wind.	Bar.	Th.	
8pm.	SW	NW			weather. 8 pm. Set jib. Midnt. Heavy squalls,
					ship pitching heavily; in jib.
					Tuesday, 26th February.
9am.		N			5 am. Daylight. Do. weather. 8 am. Do. Noon.
Noon.			30,00	86	Strong breeze with passing squalls, heavy head sea
					running; out close reefs, set jib. Long. Chron.
1pm.	WSW	NW			85.40 E. Lat. Obsd. 14.11 S. pm. Strong breeze
					with heavy cross sea, ship pitching very heavily;
					the hoop broke from the bowsprit end which let
3	S				all the bobstays, bowsprit, shrouds, &c. adrift;
					shortened sail and kept away before the wind to
6	WSW				repair damages. 4 pm. All secure about the bowsprit,
					made sail and kept the ship in her course.
					Midnt. Strong breezes with passing squalls.
					Wednesday, 27th February.
					5 am. Daylight. Heavy squalls with much rain;
					in mainsail, jib and mizen. 8 am. Moderating, set
					mainsail reefed. Noon. Fresh breezes with passing
Noon.			30,00	86	squalls, set jib and mizen. Noon. Long. Chr.
1pm.	SW				84.36 E. Lat. Obs. 14.58 S. pm. Fresh breezes
					and cloudy weather, with passing squalls of rain.
					4 pm. Moderate breezes and cloudy; out reefs,
					set topgallant sails; the main topgallant split unbent
8pm.		N			it and bent another. 8 pm. Do. weather.
					Midnt. Cloudy with passing showers of rain.
					Thursday, 28th February.
					am. Daylight. Light steady breezes and cloudy;
6am.		NE			set up mainroyal yard, set port foretopmast and
					lower studding sails. 8 am. Set starboard lower
Noon.			30,00	87	and maintopmast studs. Noon. Moderate steady
					breezes and cloudy; all possible sail set. Long.
1pm.	WbS	ENE			Chr. 83.46 E. Lat. Obsd. 16.03 S. pm. Moderate
	½S				breezes and cloudy, with passing squalls.
					8 pm. Increasing breezes, with cloudy unsettled
					weather; in main-topgallant studding sails. Midt.
					Moderate steady breezes and cloudy.
					Friday, 1st March.
					am. Daylight. Fresh breezes with cloudy weather.
Noon.			30,10	86	8 am. Do. weather. Noon. Steady breezes with
					cloudy unsettled weather; all possible sail set.
					Long. Chr. 81.49 E Lat. 16.40 S. pm. Fresh
1pm.	WSW	E			breezes and cloudy. 6 pm. Set main-topgallant
					studding sails. 8 pm. Steady breezes & fine clear
					weather. Midt. Strong breezes with hazy weather,
					in topgallant studding sails.
					Saturday, 2nd March.
					am. Daylight. Strong steady trade wind & cloudy,
					with heavy rain. 8 am Strong breezes with passing
Noon.			30,11	81	squalls, in topgallant studding sails. Noon.
					Fresh breezes and cloudy, all possible sail set.

(Log of Morayshire continued.)

Time.	Course.	Wind.	Bar.	Th.	
					Long. Chr. 79.27 E Lat. 17.47 S. pm. Strong breezes with passing squalls. 4 pm. Do. weather. 8 pm. Increasing breezes with fine clear weather. Midnt. Do. weather.
					Sunday, 3rd March.
1am.		EbN			am. Daylight. Squally with heavy rain; in starboard maintopmast studding sail. 8 am. Do. weather.
Noon.			30,00	82	Noon. Strong breezes with passing squalls and rain; the unsettled state of the weather prevented the performance of divine service. Long. Chr. 76.38 E. Lat. Obsd. 19.07 S. pm. Fresh breezes and cloudy, with passing squall of rain; set starboard lower and main topmast studsails. Exchanged colours with "William Parkes," from Manilla, bound to London, out 49 days Midnt. Strong steady breezes and cloudy.

Should any one of my readers be inclined to trace this Storm further, I may add that the COUNTESS of ZETLAND from Penang to London, suffered severely on the 6th March in Lat. 21.50 S Long. 71.20 E.

I have before me a pamphlet published by a member of a scientific society, containing some comments on the account of the Pekin's typhoon which was in the Illustrated London News of the 7th Dec., and although the learned author of these remarks goes much beyond what I should be disposed to admit as a just view of the demerits of the Pekin's case, nay he suggests indeed that the Commander should be compelled to make good the damages and to pay the bill of repairs, still I concur with him in thinking that in similar circumstances the original error of judgment is too often overlooked in the satisfaction which is felt by the survivors on finding themselves alive and safe at the end of their troubles, and glossed over by the owners in a desire to save a deserving officer from exposure, and to set forth the good qualities of their ship. To court inquiry criticism and censure is not their object; that "All is well that ends well" is a convenient and comfortable maxim; *nevertheless although it may be more consonant to the feelings, or more in accordance with the interests, of an owner* to avoid bringing such matters tooprominently into notice, I conceive that *public bodies,* and much more the *gentlemen* to whom is intrusted the superintendance over our mercantile affairs, much more are *they* bound to consider whether a great amelioration of our nautical practice may not be introduced under their authority.

If we consider the immense amount of tonnage which in the course of a twelvemonth comes under the controul of some one department or other of Her Majesty's government, and not to mention vessels of war, if we but consider the number of hired troop-ships, convict-ships, and emigrant-ships, which are annually chartered for Government purposes, it is evident that there is here a very extensive field in which their Lordships the Commissioners of the Admiralty might set an example for the public benefit. I cannot but hope most sincerely that in the course of a few years the due consideration of the Principles of the Rotatory Theory and its Application to Navigation will have become as much a system as are the use of the Chronometer and daily observations of a ship's position when obtainable.

What would be said or thought of a Captain who on his voyage from the West Indies to England should omit for a fortnight together all observations or record of his Position, merely on the ground that "as it was impossible he could be near land it did not signify within a few miles whereabouts he was, and therefore it was not worth his trouble"? Yet surely if so far from this being a common case the direct reverse holds good, and daily observations and daily reference to a Chronometer are an essential portion of a seaman's duty, why should it be thought strange to require that constant reference be made to the direction of the wind, and to the cause to which the particular direction of that wind is due under whose influence the ship is sailing?

If an Officer in command of one of H. M. Ships should be so unfortunate as to run her aground, the least that he could expect is a Court of Inquiry, even if under the greatest difficulties he had taken all possible precautions. Not that I think it any hardship that those to whom is entrusted such authority and responsibility as the command of a ship, or on whose skill and judgment so many lives depend, should be required to exercise the greatest care, but I think that men's lives are equally valuable, and the loss of ships as much to be deplored, whether they be jeopardized by one danger or another, whether by one element or by another, whether it be by air or by land; not that I would have an officer "subjected to the utmost severity of the law" because his masts may happen to have been blown overboard in a gale of wind; but I venture to ask, "Had the Moultan or the Henry Tanner belonged to the Royal Navy, why should not the damages they sustained have been made the subject of official investigation, just as much as though it had been necessary to cut away their masts through getting aground; It would be invidious to mention names, but when we see one officer of high reputation stamped with the censure of a Court Martial because a ship got aground, where I ask is the justice of slurring over the recklessness, obstinacy, or ignoranceof another who has run his ship into a hurricane which he might have avoided, or endangered her through want of seamanship, by laying her to on the wrong tack in the trough of the sea.

What therefore is needed is that the principles of the Rotatory System, as established by Storm writers, should be adopted into our Royal Naval Code, and that an officer who risks his ship by a wilful contravention of it should be held as severely responsible as if he had committed any other error in judgment, the results of which demanded investigation.

The following extract from Col. Reid's 2nd. Vol. on the Law of Storms furnishes me with a very convenient illustration of the views I have advanced, and it is the more to my purpose, inasmuch as Col. Reid having omitted, probably by design, the name of the Captain of the Vesuvius, I trust I shall not be causing pain in quoting his case, and that I shall receive from that gentleman, be he who he may, credit for not wishing to do aught than avail myself of an instance taken at random, to confer a benefit on the naval service.

> H.M. ship Vindictive, with the flag of Vice-Admiral Sir Francis Austen, left Halifax for Bermuda, on the 6th of November, 1845, accompanied by H.M. ships Rose and Vesuvius steamer. The wind was Easterly, veering next day to North in a moderate gale.
>
> At 4 pm. on the 8th it was calm, and the Barometer began to fall. The new breeze which sprung up was South-easterly. Before midnight, the wind freshening was SSE, and the Barometer down to 29,84. In the night the other ships lost sight of the Admiral.
>
> On the 9th the gale increased, and the wind veering by the S to SW, the Commander of the Rose, Capt. Pelly, then wore his ship, and made sail to the Eastward, knowing that this movement would carry him out of the gale. The flag-ship also wore at 1.20 am. on the 10th, when the wind had veered to SSW, and its force was marked 10. At Noon, on the same day, the wind with the flag-ship was W by S, and its force marked 11; the Barometer standing at 29,36.
>
> The Vesuvius (being under sail, without steam,) continued on the port-tack, falling off as the wind veered round, and drawing nearer to the path of the gale's centre, until 11 am. on the 11th of November. Owing to the North-easterly progression of the gale, the wind by that time had abated, and its force is marked 8. The Vesuvius lost her bowsprit, and was otherwise damaged.

It will be seen from the foregoing statement, that when these three vessels encountered the gale at SSE, on the 9th, the Rose kept to the Eastward, which took her out of the Storm's way, and the Vindictive also, in the course of the night, followed the same course. But the Vesuvius, keeping on the port tack with her head to SW and W, got more deeply involved in trouble and disaster.

If the Commander of the Vesuvius had had before him the certainty that he would be put upon his justification in case of his ship requiring an expenditure of stores to repair damages that might be caused by the gale, and if he had borne in mind that this question would be asked of him, Why did you keep your ship on the port tack when it is laid down in the Admiralty instructions that under such and such circumstances it is more advisable to keep on the starboard tack? it appears to me that he would probably have adopted a different line of proceeding, not unlike that presented in the following paragraph, which I have copied from the Illustrated London News, as giving a very good account of a happy combination of practice and science.

TYPHOON IN THE CHINA SEAS.

(Extract from a Letter to a Correspondent)

H.M.S. *Vernon*, Hong-Kong,
July 22nd, 1847.

"We were delayed a few hours on our way to this place, strange as the notion may seem to you, in order to allow a Typhoon to pass. It appears that from the investigations of Col. Reid and some other patient and diligent observers of atmospherical phenomena, a 'Horn-book of Storms' for the Indian and China Seas has been published, whereby it is clearly shewn and especially to nautical men, that among the many *things unseen* by which we are surrounded, high winds are subjected to fixed laws affecting their motion and duration, and directed in their courses by the same unerring hand which regulates in wisdom the more *visible things* of creation!

"On the 19th inst. at about midnight a swell of unusual height met the ship whilst running in her proper course, NNE.; and we likewise observed a heavy bank of clouds lining the eastern horizon, whence, also, the swell proceeded.

"At eight am. of the 20th, the swell had greatly increased, the before-mentioned banks of clouds had closed around us, the wind being unsteady in force as well as in direction, and the barometer oscillating. With these and other indications in the heavens, well known to the practised eye as the precursors of an approaching tempest, we cautiously opened the mysterious 'Horn-book of Storms,' to learn from its pages the means by which, if haply, we might avoid the impending danger.

"At eleven AM. the squalls were violent, and the rain descended in torrents. We therefore close-reefed topsails, and altered course, following the direction of the 'Book of Storms.'

"* * When therefore we referred to the 'Book of Storms,' we ascertained by one of the tables that as our wind was now NW, the centre of the Typhoon must bear NE of us. If we had now stood on in the same course (NNE), it is evident that we should have gone headlong into the centre of the Typhoon. Accordingly we altered course, (*i. e.* to Eastward.)

"The book goes on to direct that we notice which way the wind changes; and as in our case it gradually passed round to the *westward*, it showed that the Typhoon was then to the *north* of us. It was during this changing of the wind, that the oldest seaman on board felt that we were within the direct influence of the tempest, such being the motion of the ship.

"Having thus ran under the stern of the Typhoon (if I may use the expression), we stood on till the wind became SW, at which time, six PM, the hurricane bore NW. of us, and we knew that we had passed to the eastward of it. Orders were therefore given to resume our proper course, which was done accordingly. Thus within the last twenty-four hours we escaped from a most unpleasant companion, which, if we had adhered to old prejudices, would have bore us on to the NW, and might have engulfed us in a watery grave!

"I will end my remarks by observing, that on the day above-named a Typhoon passed over this island, and that an Indiaman, then about 160 miles to the eastward of us, was dismasted. So that the most inveterate sceptics on board the *Vernon*—and they were not a few—having thus had conviction forced upon their minds are now the loudest applauders of the 'Theory of Storms.'

We have here two ships, within a few months of each other, falling in with bad weather under precisely similar circumstances. The Commanders of each had the same facilities for avoiding danger, as Col. Reid's Law of Storms had been some time before the public. The works of Mr. Redfield were also as well known in America, as Mr. Piddington's in the East Indies. The Vernon arrived at her port fit for immediate service; the Vesuvius arrived disabled.

Why need this have happened? why should not this be guarded against for the future?

Why should not some official regulations be drawn up and published under the authority of the Admiralty, based upon the admirable but not official recommendations put forth by Col. Reid which a Commander may regard or disregard at his own pleasure.

Economy of naval stores is a topic on which so much has been said, that I shrink from the subject, even in time of peace; but should we ever go to war again, what would be the feelings of the Captain of a Vesuvius, compelled to lie idle in harbour awaiting repairs necessitated by his own recklessness, whilst his comrades in the Vernon were availing themselves of some opportunity to obtain honour and promotion.

When so many naval men in their private individual capacity are endeavouring to extend our sources of knowledge, and to ascertain how far the Rotatory System may be relied upon, it behoves those in authority to confer the same official sanction on this branch of science that has been bestowed on it by the two powerful Steam Companies whose records have rendered me so much assistance, and not leave to the casual industry of individuals the elucidation of such important truths. Let my readers contrast, I cannot say compare, the private journal of the Acting Master of the Columbine, with the official log of the Alert, as given in Page lxviii. of the Appendix. In one the Barometer is noted every three hours, in the other only once a day. Or if we turn to Page 98, we shall there see in the same private Journal, an instance of frequent Meteorological observations practically applied, and most usefully too, as they enabled Capt. Hay on the 6th January, 1850, as he himself assured me, to save his ship from running into the very Cyclone by which the Lord John Russell was dismasted. What is this but laying down in the mind, if not actually in the Log-book, from watch to watch, a Storm-circle.

Were it required that the officer of the deck, once in every watch, should make an entry of the Barometer and Thermometer and mark the Storm-circle with the ship's position, how much danger would be avoided; and what objection to it can there be except that it would be an innovation ?

Chronometers were once a new invention; they did not always exist, nor even Barometers, and yet the one is now an almost indispensable part of a ship's furniture, and few Commanders would like to own that they habitually neglected to notice the other.

Why then should they neglect to apply continually the Storm-Card to their ship's track, and why should they not record constantly the position of the ship as shewn by it on the Meteorological Chart?

The remarks in the preceding portion of this Chapter have been directed to Navigation in the North Atlantic generally; I propose now to consider more particularly the communication between Europe and North America.

If a line be drawn from the Bermudas to Shetland, i. e. from Lat. 32.00, Long. 65.00, to Lat. 60.00, Long. 2.00, it will be found that it coincides very nearly with the average track of Storms, and consequently vessels on the South-eastern side of this line will be in the right-hand hemisphere of the Storms, having the wind from the Southward and Westward, and those on the North-western side will be in the left-hand hemisphere having the wind from the Northward and Eastward. There are of course exceptions, but by a reference to the General Chart of Storms, No. XII, it will be seen to how great a degree this is true, and that all the tracks lie within two lines drawn at ten degrees on either side of the one above mentioned, and all tending in the same direction with a certain parallelism. The chief exception to this Law will be in the case of Storms coming down the Valley of the St. Lawrence and travelling Eastward, which the Mariner will be able to distinguish by the low temperature of the Thermometer, *whilst the Barometer is falling*, as the approach of such a Storm from the colder regions of the great Lakes of Upper Canada will seldom fail to produce a considerable depression.

In reference to (true) Cyclones this principle has been established by Col. Reid, that when the wind is from the Westward the ship is between the Cyclone and the Equator, and when from the Eastward she is between the Cyclone and the Pole, in other words, "in the Equatorial quadrants of a Cyclone a ship will have the wind from the Westward, and in the Polar quadrants from the Eastward," and this principle will apply strictly to both the Northern and Southern Hemispheres, and not only to true Tropical Cyclones but to all Rotatory Storms, whether they be Cyclonic (*i. e.* Circular) or Spherical.

It may also be demonstrated that in the right-hand quadrants of a Rotatory Storm the wind always veers with the sun, and that in the left-hand quadrants it veers against the sun, *i.e.* in nautical phraseology, backs.

Also in Rotatory Storms the fall of the Barometer indicates that the Vortex, or Storm's-eye, is approaching, and its subsequent rise, that the Vortex is going further away.

Consequently whenever the Barometer falls, the Commander of a ship may quickly decide the question "on which side of my ship does this Storm lie," and he may shape his course accordingly, *for the direction of the wind will indicate the position of the Storm's centre, and the veering of the wind the track along which the Storm is travelling.*

Thus if the wind be from the Westward and backing, he will be in the *left-hand quadrants of a Storm lying to the Northward of him.* This will be the case of a ship coming from the Caribbean Sea at the time a hurricane should be travelling over the West India Islands. This is also precisely the case of the Vernon, just-above quoted.

If the wind be from the Eastward veering with the sun, he will be in the right-hand quadrants of a Storm lying to the Southward of him; this then will be the case of a ship approaching the same Storm, if she be bound from England to St. Thomas' in the West Indies. This is also precisely the case of the Pekin given above at Page 107.

If the wind be from the Westward, and veering with the sun, he will be in the *right-hand quadrants of a Storm lying to the Northward of him;* this will be the case of a ship bound from Europe to Canada, at the time a Storm is moving from the Bermudas towards Scotland.

If the wind be from the Eastward, backing, he will be in the left-hand quadrants of a Storm lying to the South of him; this will be the case of a ship approaching the same Storm if she be bound from New York to Europe.

These cases might be multiplied innumerably, and as in the same part of the North Atlantic, Storms follow the same general line of track, I trust the application of them may be found useful to seamen.

These cases however apply only to vessels in the side quadrants of Storms; I will proceed to see how far I can be of service in the case of vessels in the front quadrants; *i. e.* those of greatest danger.

We have seen in several instances that the steady fall of the Barometer, with the wind continuing steadily in the same quarter, has been the precursor of very bad weather.

It has been shewn at Page 111, that although a Cyclonic Storm may be near at hand, yet from the inclination of its axis it may be preceded by very little wind, that is to say, that *the force of the wind is not a certain indication of the approach of a Storm;* it has been seen however *that the fall of the Barometer always is,* and if it were made a part of the duty of the watch to mark a Storm-circle on the Logboard with a note of the Barometer and Thermometer, the Commander in shaping his course would always have before him a ready indication of the weather that might be expected, and be apprised immediately of the approach of a new danger, and if he were standing into a Storm, *i. e.* running his ship *into the quadrants of greatest danger,* he would be enabled to take prompt measures to guard against the consequences.

As I do not pretend to much practical acquaintance with seamanship, it is unnecessary for me to repeat that I only quote from the practice of others, but I observe that whenever the American Liners are hove to in a heavy gale, it is generally on the *starboard tack;* indeed one of the mates told me that it was the invariable practice in his ship as it enabled her to meet the seas so much better.

The question then arises, whether this principle might not be extended to the question on which tack is it best to keep a ship when she has to beat to windward?

Now if we consider the course of a ship from Europe to any of the Northern States of America, or to our own Colonies in that Continent, we shall find that the first half of the voyage really is nothing more or less than one continued series of beating against Westerly winds. Occasionally for a day or two an Easterly wind may give a ship a good stretch, and then she has nothing to do but make the best of her way, but it will much more frequently occur that she will have a succession of winds from SW, W, and NW, and then at SW again. Under such circumstances it is obvious that by keeping too long on the *port tack*, a ship gets headed off to the Northward, and also at the end of one Rotatory Storm she will find herself obliged to beat to Southward to recover the ground she has lost by being set to the Northward in the first half of the passed Storm, and to fight against each successive Storm as it comes up from the West and South-West. With any wind at all, I conceive that the application of the Storm-card to his track, as suggested at Page 176, will always enable a Commander to see from what quarter the wind is likely to continue, nay, to judge with a considerable amount of certainty, because any change in the wind will be accompanied by a fluctuation in his Barometer, but if he is becalmed, then there will be of course much uncertainty, except it be in a Storm's-eye, which to a wary and practiced Commander is easily guarded against, for although in our high Latitude we shall sometimes find a Storm's-eye of 50 or 100 miles, yet the prognostications of the weather in this case never need deceive or disappoint a careful observer. Even on land they are so easily and readily to be discerned, that it has been a matter of much amusement and interest to me during the past winter to watch for the change from the bright morning's sun to the cold snowy chilly afternoon : and at sea the same observations must have an additional interest derived from its greater importance.

Instances of this are very common, and they are generally those days of the winter's season that afford the most agreable weather. I may mention as three of the most lovely days of this winter now passing away, in this part of England were

Saturday Jan. 3rd, Monday Jan. 12th, and Wednesday March 24th.

Each of these was produced by a Storm's-eye, and in reference to the last I add some remarks* which appeared in the Times of March 26th.

These indications of the weather are equally perceptible at sea as on shore, probably more so, inasmuch as the natural tendencies of the atmosphere are not liable to be affected or modified by local causes, such as hills, valleys, &c. &c.

But the calm at sea, which is most perplexing to a seaman, is that which occurs with a high Barometer when he is on the edge of two Rotatory Storms, having lost one wind and not yet been overtaken by another.

I have reserved for the conclusion of this Chapter the consideration of another objection which has been raised against my assumption that all Storms are Rotatory, as it is rather one suited for scientific inquiry than a subject for practical seamanship; I do not however despair of finding a solution of this difficulty. This objection may be stated as follows:

Let there be a revolving gale travelling from SW to NE, with

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* The following remarks appeared in the "Times" of March 26th, in reference to the warmth and beauty of the weather of the preceding day, so very unusual at this season of the year, resembling much more the joyousness of summer than the bleakness of March.

"This phenomenon arose from a Rotatory Storm passing over this country, coming from the Southward; the clear and unclouded area of the storm's-eye gave full scope to the increasing power of the sun's rays, and the body of air coming from a warmer latitude had been previously raised to a temperature higher than that of our own.

"I conceive the direction of the line of progress to have been north-easterly, *i. e.* from S.W. to N.E., as will be evident from moving a storm card over the Bay of Biscay, the Channel, and the German Ocean. The dense haze I presume to have been London smoke coming westward with the shift of wind from S.S.E. to E.N.E.

Day.	Time.		Bar.	Wind—Weather.
22	11.	p.m.	29,98	Gentle—bright starlight night.
23	8.	a.m.	29,96	S.S.E., gentle—fine sunny day.
	11.	p.m.	29,84	S.S.E., Bar. falling steadily and slowly.
24	8.	a.m.	29,80	Ditto, Ditto.
	3.	p.m.	29,75	S.S.E.
	5.10	p.m.		A brisk breeze sprang up from E.N.E., and shortly afterwards the north-eastern horizon presented a dark appearance; now there is a dense haze or blight all around us, wind N.E.
	6.30	p.m.	29,77	
	9.15	p.m.	29,80	N.N.E. stiff breeze—dense overcast, dark night.
	10.30	p.m.	29,81	Ditto; Ditto.
25	8.	a.m.	29,86	N.E. brisk breeze—cold, and gloomy.

Dorchester, March 25, 1852. F. P. B. M.

a diameter of 800 miles; what becomes of the stagnant air which is in front of the revolving Storm?

Now on testing this objection by the results of the inquiry carried on through the first Chapter of this Memoir, it appears to me that such a "Stagnant Mass of Atmosphere" does not exist permanently except in particular localities of small area, such as marshes or near high ranges of hills, the sides of which are sheltered against the prevailing winds in the one case, if indeed *permanent* can be applied to any locality ashore; or on the other hand over extensive tracts peculiarly circumstanced, such as that portion of sea within the Tropics which lies so near the Equator as to be within the Trade Winds. Beyond the Trade Winds lies that tract of ocean, subject to the winds called "The Variables;" here there is no Stagnation; and beyond this tract lies that portion of the North Temperate Zone, to which the inquiries of this Memoir have been directed.

Now on comparing the details of the Appendix to Chapter I, whether they relate to North America, to the North Atlantic Ocean, or to Europe, I confess I do not see in them anything to warrant the assumption that during the period embraced by these observations there did exist at any time such a state of things as is assumed in the question, which to bring more clearly before my readers I repeat; What becomes of the Stagnant Air in front of a Revolving Storm?

A stagnant mass of Atmosphere means I presume a calm, but we see that the only calms which existed during the above period were either within the Storm's-eye, to which the objection does not apply, or else over the space on the confines of two Rotatory Storms, such for instance as we see in the Log of the Northumberland in Storm *B* at Page xli.; but we find that in a few hours this calm was absorbed by the Storm *B.* that is to say Storm *B.* reached the Northumberland and the calm ceased. The Prince Albert to the Westward of the Northumberland had been becalmed on the 27th and morning of the 28th, but this calm ceased with her from the same cause, but earlier, and the Europa to the Eastward of the Northumberland had light winds from the *North*, but to a later hour as she did not feel the Storm *B.* until 6 pm. of the 29th. The Hendrik Hudson further still to the Eastward, had *light winds* at NW until the morning of the 30th, when she was overtaken by Storm *B.* which at this time was a strong gale with heavy squalls to the Prince Albert and Wellington. In each of these cases therefore the *calm in front of the Revolving Storm* ceased as the Centre of the Storm approached these ships respectively.

Again we find at Page xxiii. on the 28th—29th, in the Log of the Randolph there was a calm in Lat. 33.00 Long. 22.00, but by Noon of the 29th, Storm *A*. reached her, and there ensued a hard gale.

At Charlotte Town in Prince Edward's Island (Appendix Part I. Page vii.) the only occasion during which a calm prevailed for any extent of time was on the 12th-13th, in advance of Storm *K.*; a reference to Page 81 will show what became of that mass of Stagnant Air.

Again we find at Greenwich, Page *xxxiii.* Appendix Part II. that there was a calm early in the morning of March 29th, in advance of the Rotatory Storm *A.*; but in the course of the 30th and 31st the revolving gale reached the meridian of Greenwich, and though it does not seem to have been felt so severely in the neighbourhood of London as in the other parts of the East of England, the calm had quite ceased. The only other occasion on which I find a calm to have prevailed at Greenwich during any length of time was in the afternoon of the 11th of April and morning of the 12th, which was in the *rear* of Storm *F*. and not in advance of it.

We have therefore four cases of calms, "Masses of Stagnant Atmosphere in advance of Rotatory Storms," each of which was absorbed by the respective Storms as soon as they arrived at the particular locality at which the "Calm" had prevailed.

But the real truth I believe to be that Calms in front of Revolving Storms is a state of things of very rare occurrence on land.

I suppose it will hardly be said that these "Calms" travelled on in advance of Storms; that "Stagnant Air should travel" is a contradiction of terms which is its own refutation.

The steam that escapes from the funnel of a railway engine in motion does not travel; it rises into the air, remains visibly stationary for a few moments, and is then condensed and disappears; but if the engine be passing through a cutting sufficiently deep to conceal it, there will then be presented to the eye a continually advancing mass of fluid atmosphere, steam perpetually travelling onward, though in fact this fluid does not travel, but as one portion of it sinks into quiescence, another portion is put in motion; and so it is with Rotatory Storms, as the portion of the atmosphere behind them ceases to be agitated from causes to which I shall presently advert, that in advance of them is set in motion by the approach of the Rotating Centre as it progresses onwards.

It may be said that these Calms prevailed during the time of year when the weather is unsettled, but that during the quiet season of Summer, when the atmosphere is less disturbed, Calms are of longer duration, and that frequently for days together there is hardly a breath of air stirring.

But this does not prove that at such a time there are not Rotatory Winds moving at a distance, one on the one side of the space becalmed, the other on the other. The most clear way to settle such a question is to take some particular period, and some particular place, and by comparing the Meteorological observations to ascertain how far the circumstances of the case are consistent or inconsistent with the Rotatory Theory.

An instance of this kind has been given at Page 138, at which I have stated circumstances very similar to those under consideration.

Here we have a Mass of Stagnant Atmosphere prevailing in London and a Rotatory Storm approaching, and during the settled weather of the Summer too, so that this appears to be precisely a case that meets the objection which is under discussion. I think it is impossible however, after a candid consideration of the details given in that and the following pages, not to admit that to have been a Rotatory Storm; the question may still however remain for discussion, What became of the Mass of Stagnant Air which was over London?

Inability to solve this difficulty would not however disprove the facts that have established the Cyclonic nature of the Thunder-storm detailed at Pages 138-147. Such an inquiry belongs rather to the more experienced Devotees of Natural Philosophy than to an unlearned and humble individual like myself, whose object is not so much to explain scientifically the causes of this Law of Nature, as to establish the existence of such a law by collecting facts bearing upon this subject.

From what causes these destructive winds cease to act is also a question rather of scientific interest than of importance to the practical seaman. I am not aware how far Eastward any great gale has ever been traced, but of those which travel over Russia, such as Storms *A.* and *C.* it is probable that the greater number will be deflected to the Northward on reaching the great chain of the Ural Mountains, in the same way as those which pass Northward of Scotland, moving Eastward, are deflected towards the Pole by the high Coasts of Norway.

Neither am I aware whether any great Rotatory Storm has ever been traced to its conclusion, if indeed I might be allowed to use such a phrase, even were I able to define exactly in what sense I use it; though perhaps I shall not be far wrong if I assign their cessation to one of the following causes.

Firstly, that when one Cyclonic movement overtakes another, they are mutually neutralized, and this in the case of their not having travelled far or at a very rapid rate so as not to have acquired much impetus I can readily conceive, and therefore the atmosphere which had been set in motion subsides again into a state of rest.

Secondly, that a Storm, having its front quadrants highly elevated, on overtaking another may be carried over it into a higher stratum of atmosphere, especially if it come from the Southward, and be of a warmer temperature. This I conceive to have been the case of Storm **K.*

Thirdly, as with Storm *A.* which I conceive to have lost its Cyclonic properties (*i.e.* its powers of Rotation and Progression) by expansion over the great plains of Russia, by being dispersed and exhausted as it were. This Storm we have seen came down the valley of the St. Lawrence, and travelled but slowly, and had been checked in its onward progress several times; by the preceding snow-storm alluded to at Pages 10 and 14, by the high ground of the British Isles and France, and again by the Hartz and other high ground of Central Germany. Just as we see with circles on the water produced by the falling of a stone on its smooth surface, which expand at first rapidly, and then diminish in force as they increase in diameter, so I conceive do most Rotatory Storms cease, (*i. e.* come to a conclusion,) being exhausted by their own centrifugal impetus.

There is one other subject the consideration of which beyond a mere brief notice I must postpone to some future occasion, as it would probably lead to an essay as lengthy as that into which I have already been drawn; I mean the cause of the continued Easterly winds which in the Spring of the year are frequently so inconvenient to our homeward-bound shipping, by delaying them at the entrance of the Channel. According to the principle laid down at Page 177, these winds should be the Northern quadrants of Cyclones passing to the Eastward, lying between the Equator and this country.

As I have a considerable quantity of materials bearing upon this subject I hope, at some future time, to be able to show to what extent this principle is applicable to the case of these continued Easterly winds, which when I first entered upon the study of Nautical Meteorology did certainly very much perplex me, as it seemed so inconsistent with the two ideas " Rotation" and " Progress," to have a wind blowing almost in the same direction, and with the same steady force, for days together.

I understand that in the United States it is customary to use the Electric Telegraph to notify the approach of Gales of Wind as they travel* up the Coast, so that vessels in the Northern ports about to put to sea are apprized of the danger before it reaches them, and are able to take the necessary precautions, although I am not prepared to give any particular instance in which it has been applied to this purpose.

As the communication by the Electric Telegraph will probably be rapidly extended to the different out-ports, and along the lines of Railway to the most important stations for making such signals in these Islands, I conceive this system might be as easily adopted here as in the great Continent of America.

* The following extract from Col. Capper's work, which is quoted by Col. Reid in Chapter VII. of his first volume, gives Dr. Franklin's account of what first led him to observe that the North-east storms of America came from the South-west. It is in a letter to Mr. Alexander Small, dated the 12th of May, 1760, and is as follows :—

" About twenty years ago, we were to have an eclipse of the moon at Philadelphia, about 9 o'clock ; I intended to have observed it, but was prevented by a North-east Storm, which came on about 7, with thick clouds as usual, that quite obscured the whole hemisphere ; yet when the post brought us the Boston newspaper, giving us an account of the same Storm in those parts, I found the beginning of the eclipse had been well observed there, though Boston is North-east of Philadelphia about 400 miles. This puzzled me, because the Storm began so soon with us as to prevent any observation ; and, being a North-east Storm, I imagined it must have begun rather sooner in places further to the North-eastward, than it did at Philadelphia ; but I found that it did not begin with them until near 11 o'clock, so that they had a good observation of the eclipse. And, upon comparing all the other accounts I received from the other colonies, of the time of the beginning of the same Storm, and since that of other Storms of the same kind, I found the beginning to be always later the further North-eastward."

Why should it be more impossible to have a communication by the Electric Telegraph between London and New York, than between London and Paris? The difficulties may be greater in the one case than in the other; but why should they be more insurmountable?

"*Impossible*" is merely a relative term to express the proportion between a result to be produced, and the means at the command of the Agent by whom that result is to be produced; that which may be pronounced "*impossible*" by one man, may be considered perfectly feasible, nay, may readily be carried into execution, by another whose resources are greater.

But without stretching the imagination to equal a Telegraphic wire of such an extreme length, let us suppose it to reach merely from London to Cape Clear, the Westernmost point of Ireland at which it would be requisite to establish a post of Meteorological observations, and let there be other posts such as Dublin, Penzance, Plymouth, Liverpool, Bristol, and Southampton, communicating with a central office in London, let us suppose at Lloyd's.

If a periodical report were made from each of these stations to Head Quarters, (let us say, once a day as a matter of course, and oftener on the occurrence of any important change in the weather,) the person charged with the superintendence of the weather department might submit to the inspection of the Merchants at their usual hour of assembly on 'Change a simultaneous Synopsis of the weather prevailing over England; so that the Commander of any vessel about to quit any port of the United Kingdom to which the Electric Telegraph extended, might be warned of any probable shift of wind, and be cautioned against the danger of finding himself unexpectedly brought upon a lee shore with a shifting wind.

Let us take for instance the case of the J. R. SKIDDY, which left Liverpool on the 28th of March, as appears by the following statement in the mercantile papers,

J. R. Skiddy—from Liverpool, March 28, to .... New York

I have not obtained a copy of her Log, but probably on the conclusion of the gale at SE which prevailed in the Irish Channel (see Log of Duke of Cornwall St. Ship, Page xxx.) during the progress of Storm *A.* she found herself under the Irish Coast, the weather upon which, during the interval from the

28th to the 31st, may be gathered from the Steamers of whose Logs extracts are given at Pages xxx,—xxxii. of the Appendix, and from the Observations at the Scilly Islands at Page xc. At the conclusion of this Storm *i. e.* the 31st, we may suppose this vessel to have been off Wicklow, as she could not have made much progress down the Irish Channel in the interval.

At Midnight of the 31st, Storm *B.* had begun to be felt as far Eastward as the Edystone, and of course at Cape Clear and all over Ireland the same fall of the Barometer had commenced as in this Island, consequently on the morning of the 1st April notification might have been sent along the Coast that another Storm was coming on, and had the suitable signal been made this vessel might have gained an offing by standing off the Coast, eastward, instead of which we read a day or two afterwards the following statement:—

> John R. Skiddy, Shipley, for New York, was driven on shore, 1st inst. on the coast of Wexford, supposed near Glasscarrick. The master, mates, and part of the crew remained on board; passengers and remainder of the crew have landed. The water is up to the second deck.—Liverpool, April 4.

Supposing a notification had been forwarded to Liverpool that this change of wind and fall of the Barometer had taken place at Dublin at such and such an hour, the Commander of this unfortunate ship might have escaped this misfortune. What would have been the delay of a day or two in her departure from Liverpool compared with such a calamity.

Let us take a similar case of the vessel from which I was led to institute this inquiry, the unfortunate Royal Adelaide. The gale began at Dorchester early am. the 30th, with the Barometer falling rapidly, and it was evident that the direction of this Storm was up Channel, Eastward; this Storm reached London before Noon, the wind being still from the Eastward, and its direction being still up the Channel it was also evident, assuming the rate of the Storm's progress to be at the rate of from 10 to 15 miles per hour, that towards 8 or 10 o'clock in the evening vessels at the mouth of the Thames and in the Downs would be exposed to the severity of a South-east gale.

Under such a system as I have suggested, communication might have been easily and quickly made to some of the Lighthouse Stations along the Dover Railway, and being forewarned by the signal of danger Commanders might then have prepared themselves to meet it accordingly.

Something of this sort has already been set on foot by Mr. Glaisher, the Honorary Secretary of the Meteorological Society, and during the season of the Great Exhibition, Col. Reid had availed himself of the facilities afforded by the Electric Telegraph to obtain simultaneous reports from various stations in the United Kingdom, which were condensed into a tabular form, and the results submitted for public inspection at the Southern entrance of the Crystal Palace. These however, though a step in the right direction, appeared to me to be looked upon rather as "Curious puzzles for the ingenious," than to be treated as of any practical utility; nevertheless they attracted some degree of attention, and whatever may be the ultimate fate of that wondrous edifice, I trust that this developement of one of the uses to which the Electric Telegraph may be applied will not have been altogether without a beneficial result, inasmuch as it not merely notifies to us that which has actually already occurred at a distant portion of these islands, but enables us to foresee that which is about to occur. History tells us that it is to a tempest England once owed her political and religious liberties; the same Almighty hand that by the operation of a Law of Nature scattered the Spanish Armada is still, as ever, powerful to save; and although it may not be against such arms or such adversaries that we may be called on to contend in these days, we know that our shores can never be threatened seriously until the Channel shall first have been cleared, by more than human agency, of that gallant Navy

"Whose march is o'er the mountain wave,
Whose home is on the deep."

CHAP. III.

In the present chapter I propose to offer a few observations on a part of the subject which hitherto has not received the attention which its importance deserves, I mean the effect produced by Rotatory Storms on Currents in the Sea.

This discussion is, I am aware, somewhat foreign to the original object I had in view; nevertheless, it is so intimately connected with the most important interests of our Merchants, and one with which the sacrifice of life and property is so much mixed up, that I may claim to be excused for enlarging upon it, though at the risk of adding yet more to the excessive length to which this work has been drawn out.

I had hoped to be able to illustrate this portion of my subject by citing some few instances of *vessels which have been lost by running ashore at night or in fogs, &c. &c. under circumstances generally attributed to their having been carried out of their course by some unusual current,* but unfortunately on these occasions their Log-books have gone down with them, and consequently the sources of information, and means of tracing the causes of such currents, have been in a great measure lost to me.

I propose at some future period to resume this inquiry, and to extend it to the more important cases which have occurred during late years, of vessels which have been wrecked in fogs or in the dark, under circumstances attributed to an unknown current, inasmuch as it has been suggested to me that though the Log-books of the vessels themselves are not to be obtained, there probably would be other vessels at sea in the neighbourhood at the same time, whose owners would be willing to facilitate such an inquiry, as likely to contribute to the extension of science, and the interests of our Merchant Service.

Such for instance is the case of H.M. Steam Frigate AVENGER which was totally lost, (a few lives only being saved of her whole crew) off the Coast of Barbary, on her passage from Gibraltar to Malta, being run ashore in the evening of Decr. 20th, 1847, at a time when she was supposed to be several miles clear of the land.

In reference to the loss of the Avenger the following particulars may assist to throw some light on the causes of this melancholy catastrophe, for though they do not enter into any Meteorological details, they may lead to the discovery of vessels that were in the Mediterranean at the time, whose Logs may enable me to trace the cause of this current.

By the PACHA Capt. Olive, which arrived at Southampton on Wednesday, Jan. 5th, intelligence has been received of the wreck of her Majesty's Steam Frigate AVENGER, on the Sorelle rocks, on the 20th Dec. The Pacha left Southampton on the 9th ult, with the Indian Mail, in lieu of the Erin, which had been disabled in the late dreadful gale and was obliged to return. She reached Gibraltar on the 17th Dec., and left again the same evening for Malta. H. M. S. Avenger left five hours before her, and at 2 pm. of the 20th was seen from her masthead. The Pacha arrived at Malta on the 22nd, and left on the 24th for England. On the evening of the 25th she was signalled by a French man-of-war named the LAVOISIER, and Captain Olive was informed by the French Captain DU PENHOAT, that the Avenger had been wrecked on the Sorelle Rocks on the evening of the 20th.

The following letter by a naval officer much experienced in the navigation of the Mediterranean relates to the currents in the Mediterranean at the time of the loss of the Avenger.

Sir,—It may be remembered that on the morning of the day on which this sad event occurred, the Avenger was seen by the Steam Packet Pacha in the offing, on her port beam, hull down, and distant about twelve or thirteen miles. In running up the Mediterranean for Malta, it is usual to pass to the Northward, or outside the dangers of the coast of Tunis, as you draw towards Cape Bon, and it was concluded the Avenger had shaped her course accordingly; and had it not been for the very strong set to the Southward, which was more perceptible to the Pacha in-shore than it could be in the offing, the former would in all probability have reached her destination in perfect safety. As a proof of what has been asserted relative to the current, on the morning of the 19th, the day previous to the disaster, the Pacha, at daylight, was found to have drawn so close into the land from the Southerly set, that she had to alter her course two and a half points to the Northward for some time to clear Cape Teney, lying to the Westward of the town of Algiers; and again on the 21st, the day following the wreck, the Pacha having taken her departure from Cape Bon at noon, it was necessary on making the Island of Pantelaria the same afternoon at 3 o'clock to alter the course nearly five points to pass to the Northward of it, so great was the Southerly set in this short space of time. Likewise on the return of the Sultan packet, with the Indian mail not many days after, the same current was observable; expecting to pass the Island of Pantelaria in the course of the night, her course was shaped to take her well to the Northward of it; but in the morning she was found further to the Southward than could possibly have been anticipated; and for three successive days, in steering for Gibraltar, it was proved by the Chronometers that there was a daily set to the Southward, varying from 17 to 34 miles.

Capt. Guthrie informs me that it is with much regret he has hitherto been unable to obtain the information which would have cleared up these points.

It appears that during the above period there was a strong

NW gale blowing, which would have the effect of setting her off her course, and as this is what would happen to a Steamer in the right-hand quadrants of a Cyclone travelling up the Mediterranean to the Eastward, her wreck may therefore be fairly attributed to this cause.

In reference to the loss of the Peninsular and Oriental Company's Steam Ship Great Liverpool, I have received from Capt. Guthrie a letter from which I give the following extract[*] which would lead to the inference that a Cyclonic Storm was coming from the Westward, into the Southern and Eastern quadrants of which this vessel ran, and was hurried by it off her course 25 or 30 miles to the Eastward. It will have been seen that all the Storms in Chapter I. which reached the Coast of Spain, came from the Westward, and that as regularly as the wind veered from NW to W, and SW, the Barometer fell and a fresh Storm came on.

This general Cyclonic movement from the Westward to the Eastward, would account for the great pressure of water from the Atlantic through the Straits of Gibraltar *Eastward*, for the revolving fluid body of water on reaching the shores of the Continents of the Old World is embayed, as it were, by the shores of Africa to the Southward, and of the Spanish Peninsula to the Eastward, and being therefore thus pent up it naturally endeavours to force its way through the only outlet remaining for it.

It would be interesting to be able to compare the Summary of Storms at Page 87, with the rise and fall of the tide in Cadiz Harbour, or at Lisbon, during March-April 1850, or with any *data* that may exist showing the nature and strength of the currents through the Straits for that period. From the same cause we may explain the great set off the Scilly Islands, known by the name of "Rennell's Current," which would be the reflux eddy of the water forced into the Bay of Biscay, and moving along the Coast of Spain Eastward, then of France Northward, and sent off in a North-westerly direction by Cape Ushant, the projecting headland which forms the extreme point of the Bay.

[*] Peninsular and Oriental Steam Navigation Company,
Offices, 122, Leadenhall Street,
London, 24th December, 1851.

My Dear Sir, * * At the time the Great Liverpool was lost, she must have experienced a strong current to the Eastward, as by the reckoning they considered the ship at least 25 or 30 miles off the land, having been running before a strong SW gale for some time previously, accompanied with a heavy following sea. * * *

F. P. B. Martin, Esq. R. D. G.

H. M. Steam Frigate BIRKENHEAD was lost at 2 am. of the 26th February, 1852, on her passage from Simon's Bay to Algoa Bay. It is stated in Commodore Wyvill's dispatch of the 3rd March, that "although the night was calm and starlight, and the sea smooth, there was a long swell setting on shore.

I presume this swell came from the Southward, which would be consistent with a Storm moving from Westward to Eastward, the usual track of Rotatory Storms in the temperate zone. The effects of such a swell would doubtless be to set this unfortunate vessel nearer to the shore than her Commander apprehended, if it arose from the cause to which I attribute it.

To the loss of the Reynard I have already alluded at Page 56, and at the time of writing this page I have not obtained any further information than is there given.

Of the loss of the Randolph I have received from Messrs. Dunbar the following extract of the letter from Capt. Dale containing all the particulars which he has been to supply to me.

Ship " Randolph." July 1851.

"At 4 pm. on the 25th, made Round Island, bearing West, distant about 10 Leagues, steering direct for it. At Sunset, the Island 7 Leagues on the same bearing, fresh breeze, and fine clear weather; took in all the studding sails and royals. At 9 pm., abreast of the Island, distant two miles, steered W by S. At 9 30, the Island NE. It then came on squally and heavy rain, and the wind flew round to the NE, taking the ship aback, hauled the main sail up, and sounded 20fms. no bottom, it then fell calm for a short time, and again freshened from the SE, the ship going 5 or 6 knots, the weather still thick. At 10.45, saw breakers on the weather bow, and ahead, put the helm hard a port immediately, but before the ship would veer, she struck forward, and came broadside on to the reef. Found a very strong current running at the rate of 5 knots, to which I attribute the loss of the ship, setting on her broadside and a squally night coming on when between the Islands. I was aware of a tide of 3 knots during the spring tides, but being then at the dead of the neaps, I calculated about 1½, and running the short distance of 10 miles between Round Island and the Quoin, another high Island, I did not think it possible the ship could be driven 7 or 8 miles out of her course in so short a time."

Another obstacle in the way of tracing such currents, and (supposing them to be created by Rotatory Storms) of ascertaining the connection is, that rarely in sailing vessels is there any entry of the ship's position by the dead reckoning, if it can be ascertained by observation, unless there be some very startling difference. It is rarely in any but Steam ships, in vessels in her Majesty's service, and in some few sailing Merchantmen under peculiar circumstances that I find any record of the supposed, as well as of the real position, of the ship preserved.

However, I have extracted from the Appendix a few instances of Vessels, which have been set out of their course under the effect of passing Cyclones.

On the	See Page	Position of Ship	Dead Reck. Lat.	Dead Reck. Long.	By Obs. Lat.	By Obs. Long.	Direction, &	of Current.	Force,	Storm	Being in Lat.	Being in Long.
March 28	xxii.	GRIFFON,	52.00	16.04	52.23	16.45	N 46 W	NW	34 miles.	*A*	52.	32.
30			52.03	16,14	52.22	16,10	N 7 E		19 ..		52.	16,
31	l.	GRIFFON,	51.33	14.25	51.45	14 05	N 45 E	NE	17 ..	*B*	52.	33.
April 1			50.42	12.53	,	13.16					50.	15.
2			50.26	12.05	51.05	12.37	S 45 W	SW	29 ..		53.	14.
4	lxv.	GRIFFON,	49.21	6.33	49.42	6.25	N 15 E	NbE	22 ..	*C*	54.	2.
	lxxi.	POTTINGER,	47.45	7.15	47.26	6.53	S 38 E	SEbS	24 ..			
5	lxxii.	SEVERN,	48. 7	6.55	48.18	6.44	N 34 E	NEbN	13 ..	Over the Baltic.		
8	lxxxv.	SEVERN,	46. 1	15. 7	45.35	15.20	S 19 W	SSW	28 ..	*E*	49.	9.
10	cxviii.	AVON,	37.18	55.04	36.58	54.56	S 27 E	SSE	23 ..	*G*	51.	50.
12	cxxix.	AVON,	40.24	47.20	40.04	46.57	S 42 E	SE	27 ..	*H*	51.	40.
16	cliv.	AVON,	45.23	28.57	45.36	29. 1	N 11 W	NbW	13 ..	**K*	49.	31.
18	clxii.	AVON,	47.49	17.48	47.48	17.26	East		15 ..	*K*	54	30.
20	clvii.	INDUS,	44. 3	9.11	44. 5	9.18	N 71 W	WNW	5 ..		56.	8.
	clvii.	IBERIA,	45. 6	8.54	45.13	8. 9	N 76 E	ENE	33 ..			
	clx.	AVON,	49.50	5.19	49 34	5.20	South		16 ..			
21	clxii.	INDUS,	47. 5	7.22	46.58	7.17	S 26 E	SSE	8 ..		56.	5.
	clxii.	RIPON,	49.39	4.25	49 31	4.23	S 9 E	SbE	8 ..			
22	clxii.	RIPON,	46.33	7.15	46.37	6 59	N 70 E	ENE	12 ..	Over the Baltic.		
	clvii.	INDUS,	49.33	4.27	49.25	4,32	S 22 E	SSE	8 ..			

I had purposed to illustrate each of these cases by a diagram on a large scale, but I am compelled to postpone this for the present; such of my readers as are inclined to go more deeply into this inquiry, will not object to draw them for themselves; I have the less regret as I consider this Chapter merely as a basis of the investigation which I hope at some future time to be able to extend to this subject.

I would however especially direct attention to the case of the IBERIA, which vessel on the 20th April, 1850, was set 33 miles to East-north-eastward of her supposed position by Storm *K.*

Besides the above we have seen at Page 143, how the Penin. and Oriental St. Ship GANGES was set nearly 30 miles to the Eastward of her course on her outward run from Southampton to Gibraltar in June 1851, and this was owing to the strong current produced by the Cyclone which burst over England on the 21st, in such a fearful Thunderstorm. Being in the broad daylight in the middle of the Bay of Biscay no ill consequences resulted, and had she been further to the Southward so as to have approached the Coast of Spain during the night, or in a fog, doubtless her Commander would have taken such precautions as to have prevented any such catastrophe as occasioned the loss of the GREAT LIVERPOOL, at least I have no right to assume he would not have done so; still we have seen instances of great loss of life and property through ignorance of the existence of danger, and I therefore invite attention to the Log of the Ganges above quoted.

I have gone more fully into these details because it appears to me that the consideration and due application of the principles of the Rotatory Theory may explain the cause of the loss of many vessels in past times, and serve to put Commanders on their guard for the future. If these principles be, as I believe them to be, universally true, and if it be possible, nay easy, for a Commander, day by day, and hour by hour, by comparing the fluctuations of his Barometer and Thermometer with the veering of the wind and the changes of the heavens, to ascertain in what direction lies the centre of the influence, the moving cause on which depends his safety or destruction, why should he not be on his guard against unusual currents of the sea, as well as against sudden squalls of wind. Can there be any cases more precisely similar than those of the Great Liverpool, the Iberia, and the Ganges, except in their result. Each of these vessels was 20 or 30 miles Eastward of her reckoning, and from the same cause. Possibly at the time of the loss of the former vessel, the origin of unusual currents being less understood than at present, less allowance was made in the steering of the ship on the very dangerous coast along which her course lay; possibly her fate may have been a warning to the other officers of the same Company to use additional precautions in approaching the dangerous coast of the Peninsula; possibly some of those gentlemen to whom I am so much indebted for their valuable contributions to this Memoir may deem this subject not unworthy their attention, and lend me a helping hand in my future endeavours to develope this subject.

This is a matter of interest to the Commanders of Merchant-ships more peculiarly, since it is on their shoulders that the burden of blame is laid, if any thing goes amiss in the navigation of their vessel. In the Royal Navy this responsibility belongs to the Master, who is held accountable that the course kept by the vessel is in accordance with the orders of his Captain, but in ships employed solely for the purposes of Trade the case is otherwise, and therefore I especially invite their co-operation in my proposal to ascertain what effect Rotatory Storms produce on the Currents of the North Atlantic, the general direction of which is so well known to seamen that it must be quite unnecessary for me to describe them here.

One principal means, by which these general currents have been ascertained, is by the drifting of bottles which have been thrown overboard from ships in the open sea, and which have been cast ashore; but these experiments have been made at random, without concert, and without any very precise results. Now, I would propose, that under the authority of some one of our great shipping communities, the Committee of Lloyd's for instance, an experiment should be made for the space of one month at least, and that a sufficient number of bottles and printed forms should be provided, and be issued in proper quantities to the Agents of Lloyd's at the great Ports of India, Brazils, the West Indies, and North America, and to the powerful Shipping Companies who have so liberally contributed to me their assistance on the present occasion. I would propose this experiment should commence for the homeward-bound Indiamen as soon as they reach the tenth degree of North Latitude, and be continued by the outward-bound until they reach the same parallel.

Besides the incidental Traders, there would be the two outward and two homeward-bound Steam Ships of the R. M. West India Steam Packet Company's bi-monthly line.

The monthly line of the same Company to the Brazils.

The Screw Steamer to the Cape.

The weekly Cunard Liners to Halifax and New York.

From ten to twelve of the weekly sailing London and New York Liners.

Also, the Steamers from New York to Bermuda.

The bi-monthly line from New York to Southampton.

The Screw Steamers from Liverpool to Gibraltar and the Mediterranean.

And though last, not least, the powerful and numerous fleet of the Peninsular and Oriental Company.

In addition to these, there are the numerous Coasting and Continental Steamers, from whose Logs extracts are given in Storm *A*.

Supposing a sufficient number of persons could be found willing to interest themselves in the execution of this project by filling up correctly the printed form each day at noon, and that a very moderate proportion of the bottles should be picked up again, I conceive that there would be the basis of some very interesting statistics.

The nature of the printed form is evident if we consider the information required; it would be either a copy or an abstract of the ship's log for the preceding 24 hours, stating her real position at Noon of the preceding day, and her supposed and real position at the time when the bottle was thrown overboard. In the case of those homeward-bound ships which were owned in London, whose logs would therefore be accessible for copying, it might be sufficient to write merely the position of the ship for the day.

It would merely remain that some careful and confidential person should be selected, whom the shipowners would permit to copy the Logs of such of their vessels as should be at sea within the prescribed limits during the month in question, and that the Trinity Board in England, and the Board of Northern Lights in Scotland, should be requested to give their assistance on this occasion also, for the purpose of tracing the course and duration of Storms over this the Eastern portion of the Atlantic Ocean.

The Meteorological Observers on the great Continent of North America would doubtless be too willing to contribute their valuable reports for the completion of the Storm tracks on the Western side of the Atlantic.

Those members also of the learned scientific societies on the Continent who have so readily responded to the application which through the kindness of Lord Palmerston I was enabled to convey to them, would doubtless render their valuable aid to the completion of such an inquiry; the object of which would be not merely to ascertain the nature and effects of currents in the open sea, but to verify the conclusions which to me appear to have been established by the authorities quoted at the conclusion of the Chapter I.

As these bottles would be air tight and would float, if they were made of some bright colored glass either red or opal many of them would doubtless be picked up at sea, thus affording an additional indication of the direction of the current before it was affected by reaching land. This indeed would be an additional advantage to the purposes of such an inquiry, as if a bottle were picked up within a few days after it was set afloat, it would indicate more exactly the effects of the particular current to which it had been committed.

A friend, who has looked over the proof-sheets has offered me some suggestions on the few following points, as requiring some explanation;

In the note, Page 5, I have drawn a comparison which may be deemed invidious, between the Logs of the R. M. West India Packet Company and those of the Peninsular and Oriental; this certainly was not my intention, and though doubtless the passage is susceptible of the construction that has been put upon it, my object really was to hold up these two Companies to the public admiration as patterns of a good system of education of juniorOfficers, and as benefactors to the best interests of science.

Secondly, that I have omitted a promised reference to Lieut. Maury's Wind-Chart of the North Atlantic; but as I have felt I could not devote at present to this subject the full attention its great interest and importance deserved, so I was unwilling to pay to it the meagre homage of a few passing sentences. I hope my friend therefore will reserve the gratification of her curiosity until I have had leisure to bestow more study on this fascinating subject.

Thirdly, that some of my remarks and criticisms are extremely severe and uncalled for: but I do not give her references; if my criticisms do not attract the notice of the persons to whom they are applied, it is quite unnecessary that I should do it for them; and if any body should stumble on any of my remarks which may seem grievous to him, I can only assure him that I have not said anything of him half as severe as had already been said upon much higher authority.

Fourthly, another point suggested is, that I have frequently used the words "Quadrant" and "Hemisphere" in reference to a Storm's area, in a certain technical sense, more especially at Pages 107-113, different from that in which they are more commonly understood when applied Mathematically. As a Quadrant means a fourth-part of a circle, it is evident that in treating of circular Tropical Storms, the Hurricanes of the East or West Indies, the word Quadrant was most correctly used to express a fourth-part of the area, whichever portion of that area might be in the writer's mind at that moment; it is in this sense in which I presume Col. Reid has used it, in speaking of the "Quadrant of greatest danger," meaning that portion of the front of a Storm in which a vessel would run the greatest risk.

I have also spoken of the "Right-hand Quadrants," and the "Left-hand Quadrants," meaning those respectively to the right and left hand of the track of the Storm's centre, and of the "Rear Quadrants," or those in the hinder part of the Storm, and as two Quadrants make up a semicircle, any two of them are by a figure of speech, called a Hemisphere; and although beyond the Tropics Storms lose their Cyclonic, and acquire an elliptical, form, still the word "Quadrant" serves to express the fourth-part of their elliptical, as it did previously of their circular, area, and the word "Hemisphere" sufficiently indicates the portion of the area to the right or left of the track of the Storm's centre, so that we speak of the "Right-hand hemisphere," and the "Left-hand hemisphere" even of a Tropical Cyclonic Storm, which is not either spherical or elliptical, but circular.

It has also been objected that throughout the second and third Chapters I have constantly referred to "the Principles of the Rotatory Theory," as though this Theory were one on the soundness of which all agreed, and as though these principles were completely established, whereas instead of arguing from so important an assumption, I ought to have shewn the conclusiveness of the grounds on which this assumption is based before I proceeded to argue on it. It may be well therefore to recapitulate those principles which I have referred to as established by Col. Reid in reference to Tropical Hurricanes, and which served me as the basis on which I proceeded to build the inferences that they were not limited to the particular portion of the globe within the Tropics, nor to Storms of peculiar violence, but that the same principles were invariably true, and that the application of this Law of Nature when properly explained would account for all the phenomena of "Weather," as well beyond the Tropics as within them.

These principles are,

When the Barometer begins to fall a Storm is approaching, and if as the fall continues, the wind shifts or veers with the sun, *i. e.* from East to South, and then to West, &c. the vessel is in the right-hand of the Storm's central track or axis: but if the wind veers against the sun, or backs, *i. e.* from East to North, and then to West, the vessel is on the left-hand of the Storm's axis: if the wind remains steady in the same quarter whilst the Barometer is falling, the vessel is in the "Quadrant of greatest danger," *i. e.* her course and the track of the Storm are converging, just as occasionally happens with ships on different tacks crossing each other, which consequently come in collision unless one gives way: when the Barometer begins to rise again after a fall, the danger is passing away; no matter whether the force of the wind increase or not.

In a Rotatory Storm, when the wind is from the Eastward, the vessel is between the Storm and the Pole, but when from the Westward between the Storm and the Equator: this holds good of both sides of the Equator.

Fifthly, that the Charts coincide neither with those Sections of the Appendix to which they refer, nor with the respective portions of Chapter I. which are based on those Sections, more especially as regards Storms *H, I, *K, K.* This objection is, I am aware perfectly well founded, but my explanation is that Chapter I., and the greater part of the Appendices, had been printed off before the Charts were accurately arranged, and these discrepancies were not noticed until too late for correction, ex cept I had reprinted several sheets. From the absence of all Barometrical observations in the Reports of the Admiralty Agents, and the very superficial manner in which the changes of the wind are recorded, it was difficult to arrange them as I was able to do in regard to the Logs of other vessels. This was more particularly the case in some portions of the America's Log, and until I came to the revision of the Charts I did not perceive these errors; I am therefore under the greater obligation to the friend who has bestowed so much pains upon them.

Lastly, that in consequence of these apparent discrepancies the rate of progress of each day's advance of these Storms is laid down in a very arbitrary manner. As I stated at the very outset of the work at Page 13, that "I did not profess to trace consecutively from day to day the precise positions occupied by the centres of the Storms" it is the less necessary to defend myself against an irrelevant charge. The question being whether all these Storms fulfilled the two conditions of "Rotatory and Progressive," it is to these points I rather direct the attention of my readers. The irregular rate of progress is very striking, and the causes of it worthy of consideration and inquiry, and it is on the elucidation of these points that I have been most anxious.

But more than all my chief anxiety has been to set forth fairly information carefully collected, and to avoid even the semblance of colouring or distorting facts to establish a foregone conclusion. Such an attempt must have failed however skilfully contrived, and therefore I trust I shall be excused for this endeavour to further the objects of those great benefactors who have so largely contributed to the developement of

Meteorological Phenomena.

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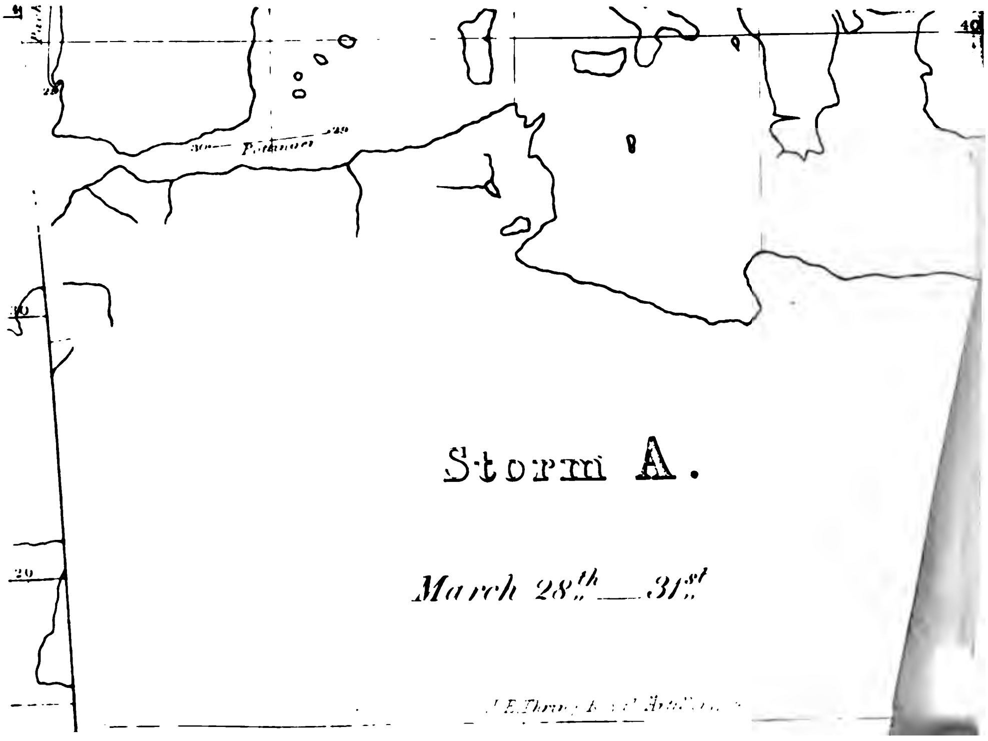
Additions and Corrections.

Page.	Line.				
55	6	*For* 9th *read* 8th			
	8	8th — 9th			
56	Note Line 6.	The Randolph near the Mauritius on the 25th July			
63 and 89, Storm *H*.					
	12th,			51	40
	13th,			52	27
	14th,			52	19
	15th,			57	10
64	22	William Money,	14,	18,	cxlv.
	23	Cambria,	15,	17,	cxlvi.
65	12	After "wind"	for ,	write ;	
	14	"violence"	;	,	
68 and 89, Storm *I*.					
	15th,			50	18
	16th,			52	14
xxiv.	Madagascar. March 30, Noon.				19.17
xl.	Prince Albert March 30th, Noon. Lat. for 45.05 write 42.05.				
liii.	Pottinger. April 2nd. Noon. The figures 39,38 refer to Lat. Obs. of the preceding line.				
lxi.	Note. Lines 3—4	on record in the Second Chapter some details relative			
lxv.	Griffon. April 4th. Noon. Lat. DR. for 40.42 read 49.42.				
lxxx.	Margaret Evans. April 4th. Bar. 29,60.				
lxxxi.	Europa. April 3rd. Lat. 44.20. This is correctly copied from Messrs. M'Iver's Letter, but it does not agree with the positions for the other days.				

(Turn over.)



Additions and Corrections continued.

*lxxxii. Sunday, April 7th. Noon. Read Lat. (about 37.00) Long. (about
cx. 34.00.)
lxxxvi. } Isabella Blyth. April 9th. Midt. Wind for NW read SW.
& cxv. } Bar. for 29,75 read 29,70.
cxi. 23 Hashemy. April 10th, margin. *for* pm. EbyW *write* EbyN
cxiii. Severn. April 8th. Long. 15.20.
cxx. 18 Omit 29.60 59
—— 19 Margin, insert Noon. 29.60 59.
cxxii. Severn. Noon, 11th April, read Long. 21.4.
Do. 12th, read Long. 23.29.
cxxviii. Head-line for § XI. read § XII.
cxxx. DOLPHIN. April 14th. Noon. Lat. Acct. 33,35.
cxli. Severn. Noon, 15th April, read Long. 29.38.
INDEX. After Lake Huron, Insert Madeira (see Brilliant)
—— REIKIAVITZ —— St. Michaels (see Onward)
101 The first line
ing showers. 4. Sighted, &c.
should have been placed at commencement of preceding page.
106 Note † Line 5 under water.
113 3 if the ship at A
127 15 speaking facts so well established that it is
135 15-16 in the onward progress of Storm *B*. and to its
138 29-30 *read* 11.55 1.30
147 16 down be well established, in
29 assertion,
31-32 Storms in those parts of the open sea in which
167. 4th from bottom. steady SE trade, and to have
169. Lines 9—10 double-reefed the
topsail.

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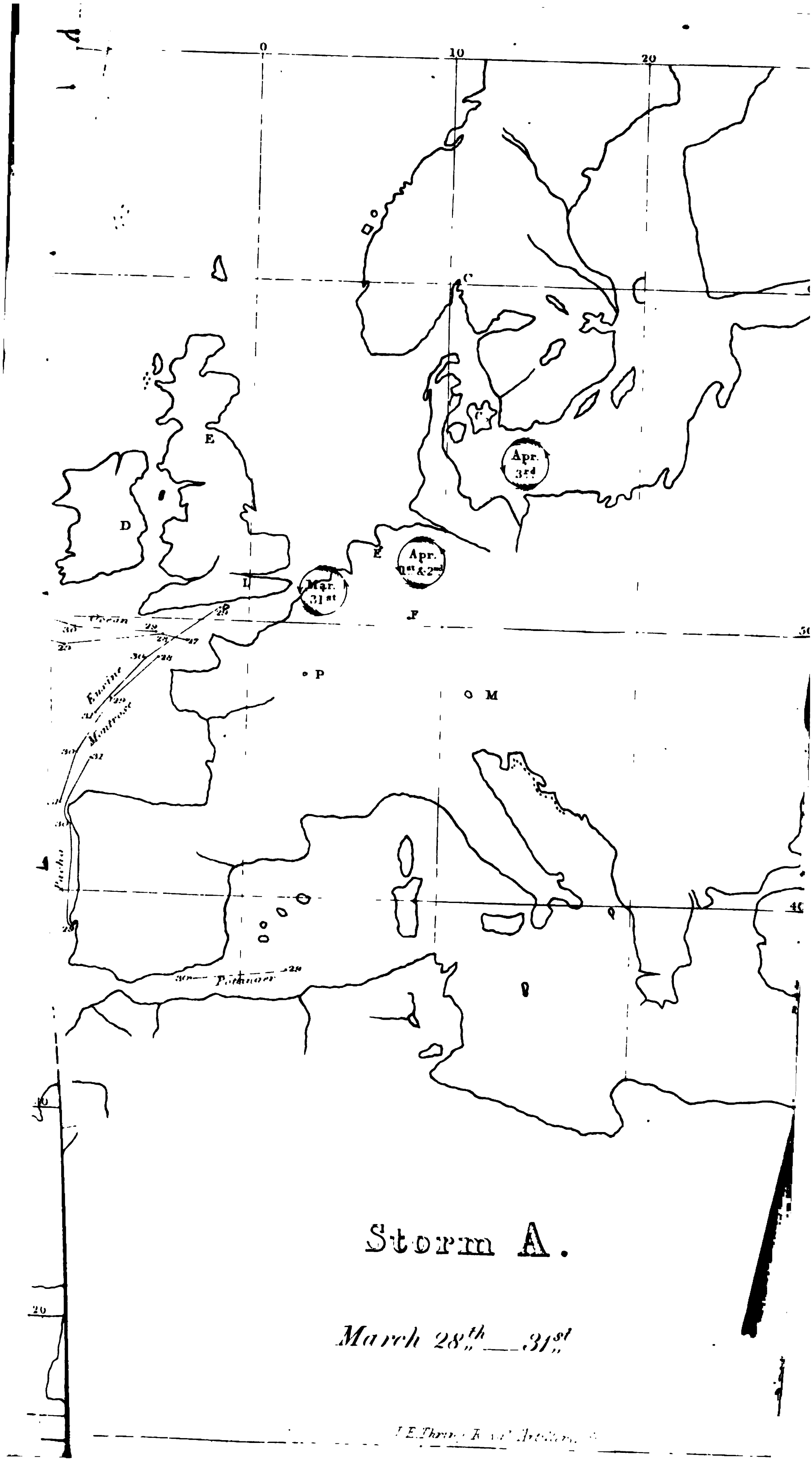
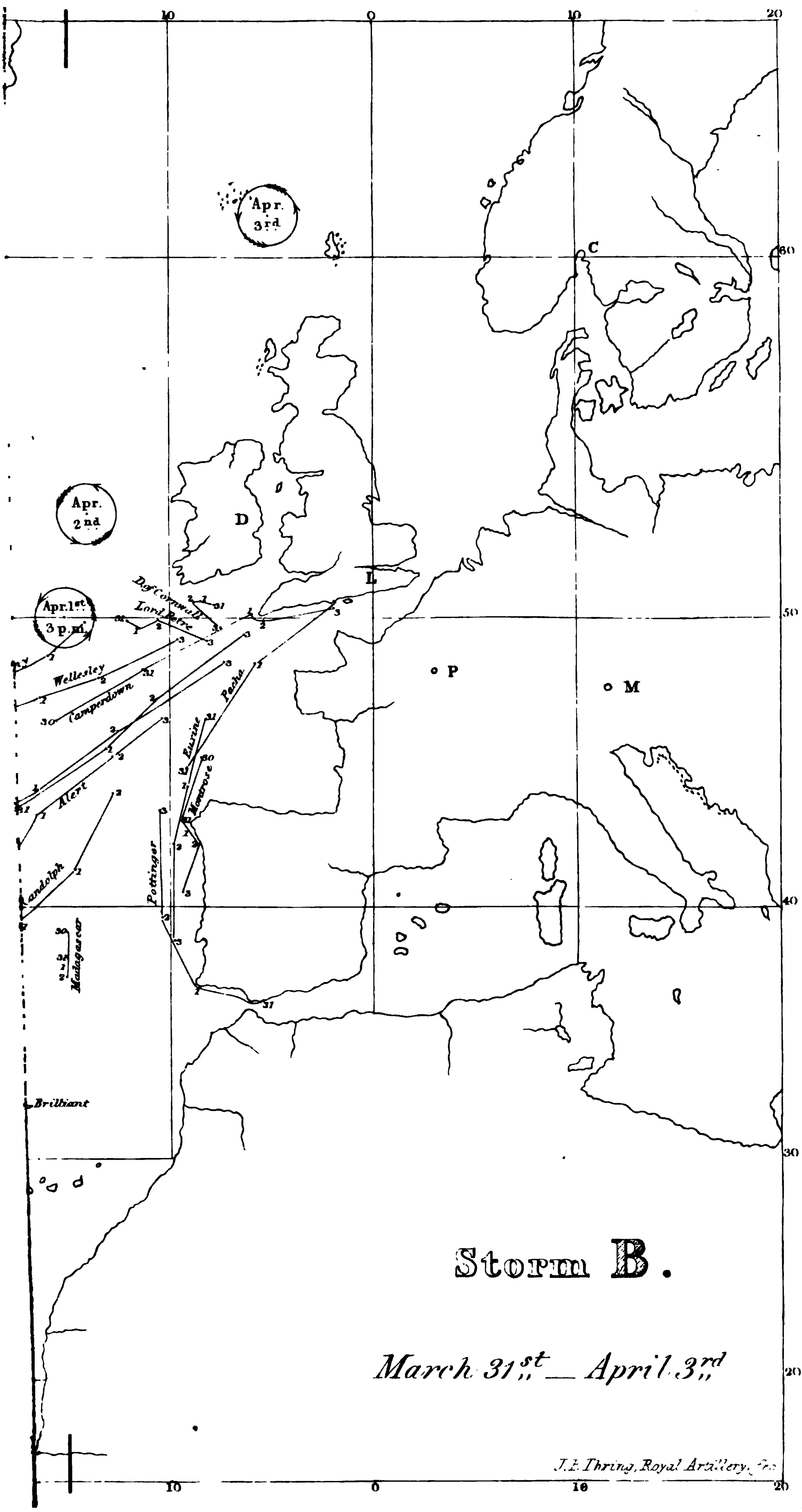


Storm A.

March 28th — 31st

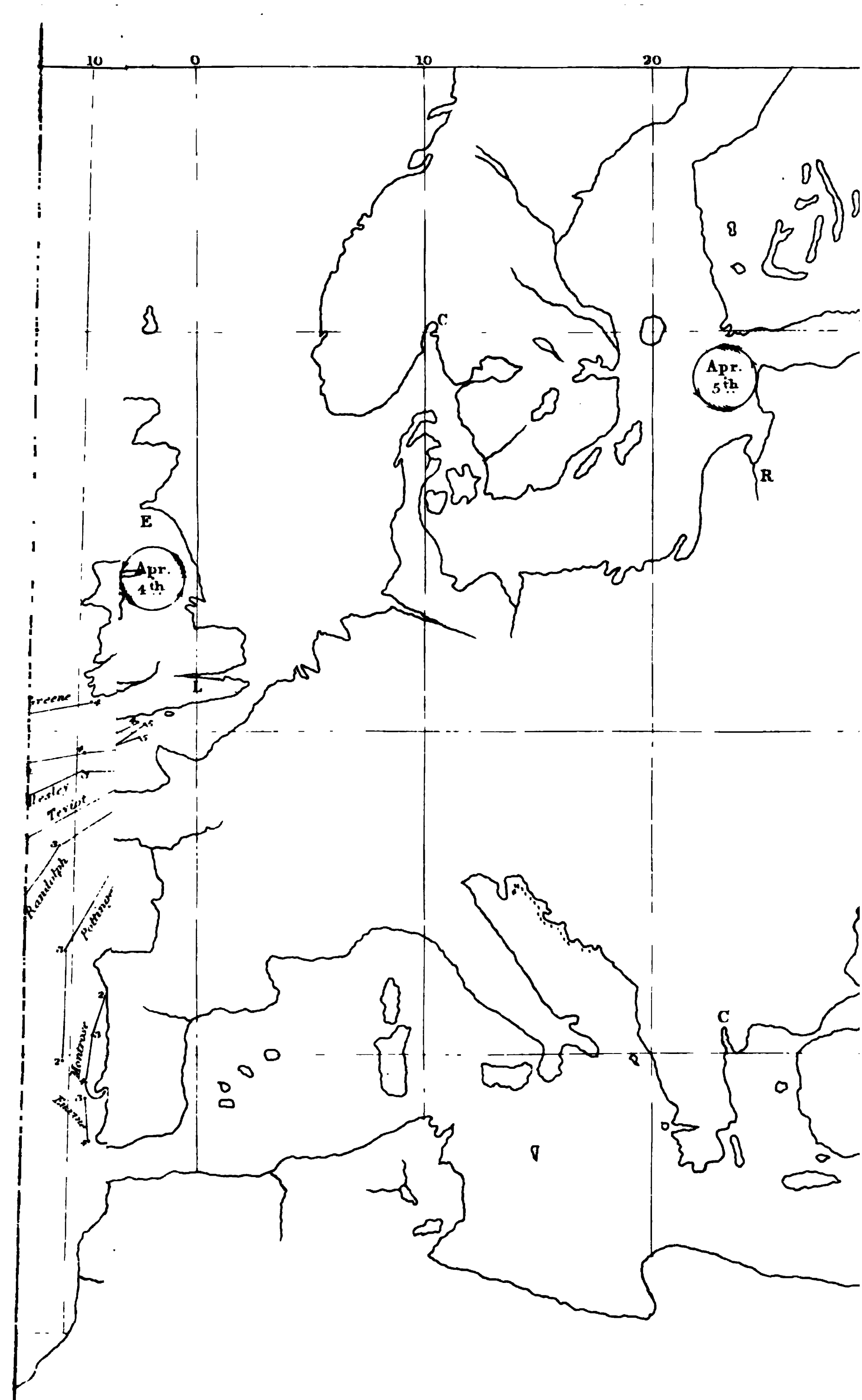
J. E. Thrn [illegible]



Storm B.

March 31st — April 3rd

J. E. Thring, Royal Artillery, &c.

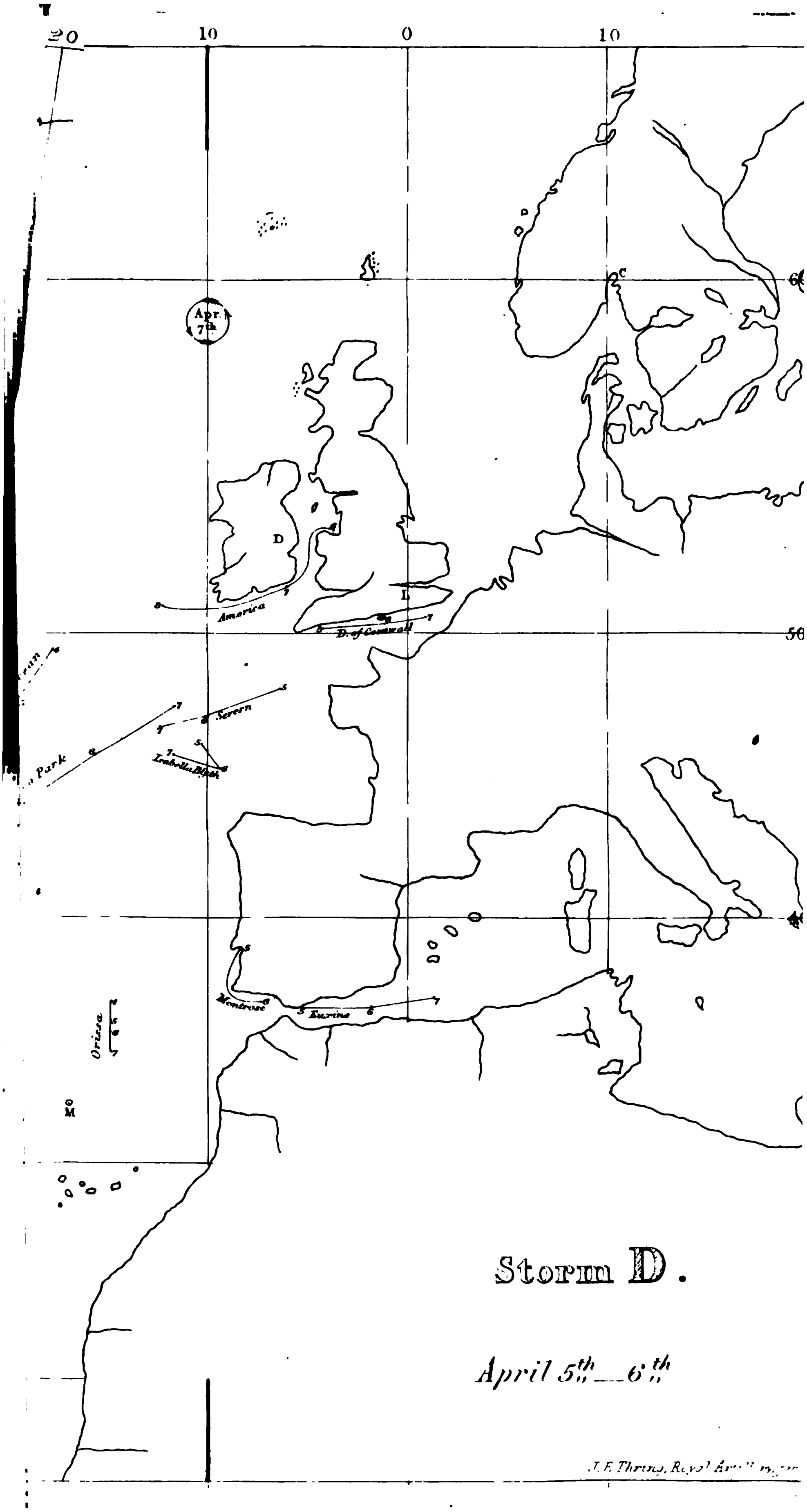


Storm C.

April 3rd — 5th

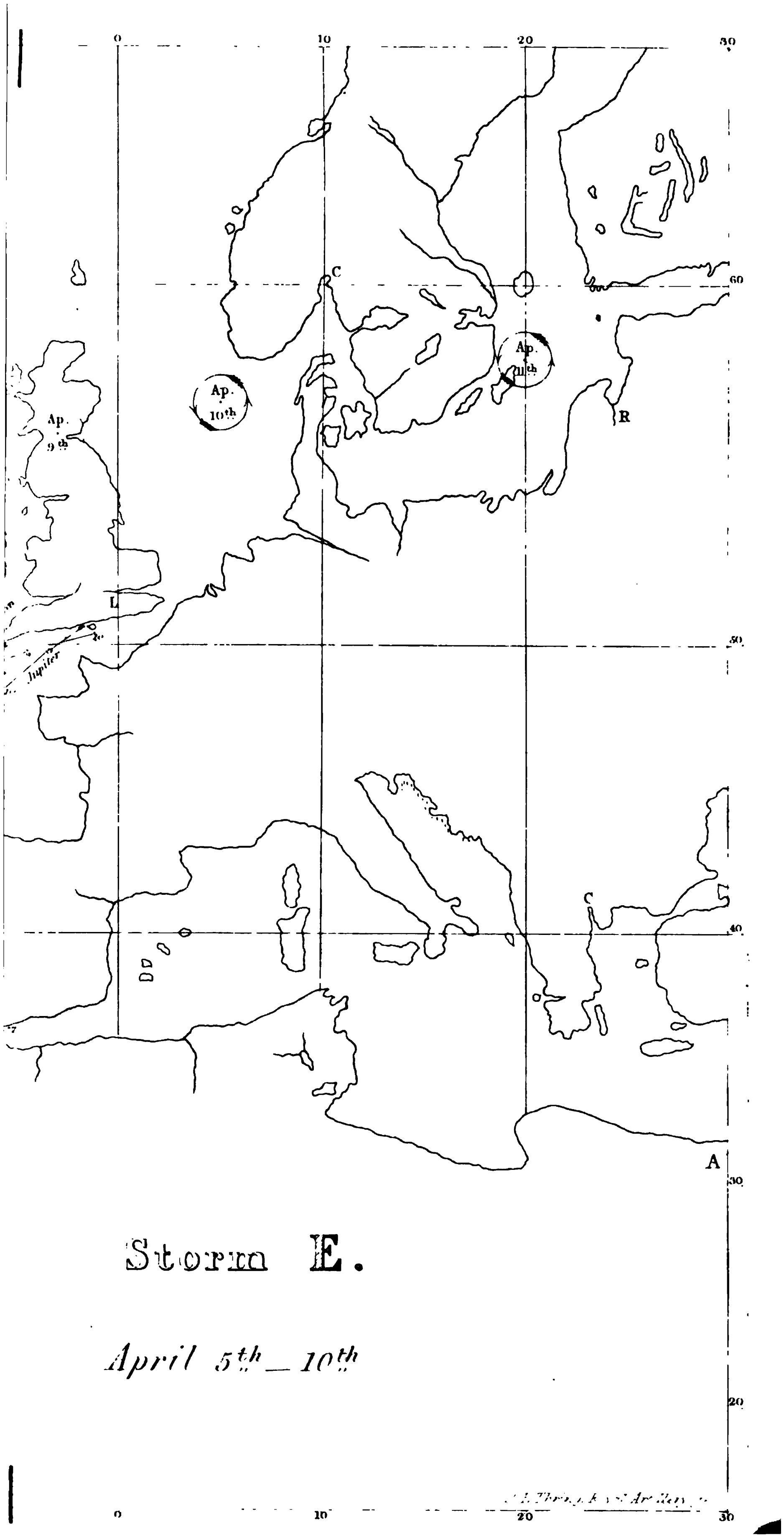
J. E. Thr[illegible], R[illegible] Art[illegible]

20



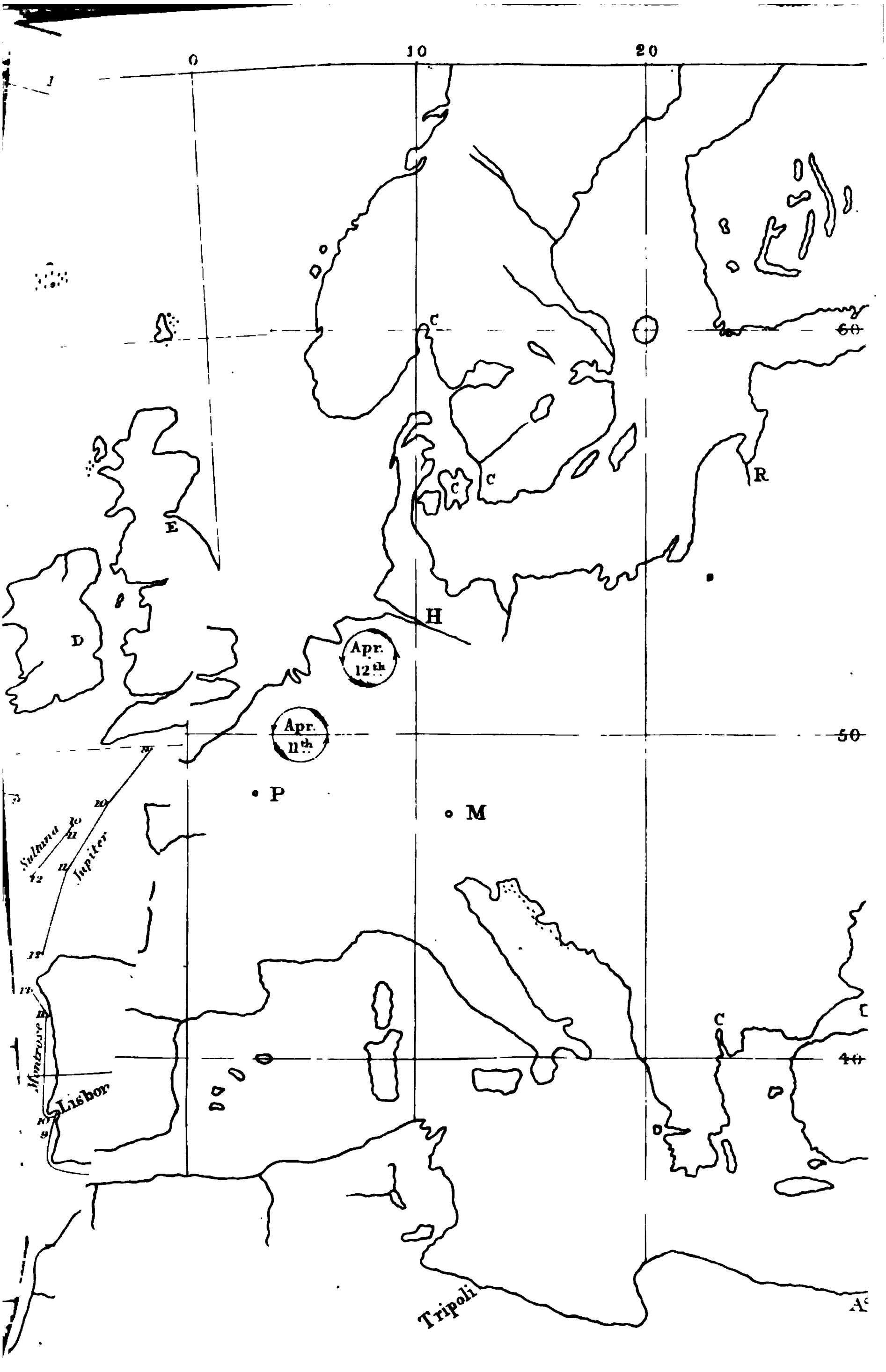
Storm D.

April 5th — 6th



Storm E.

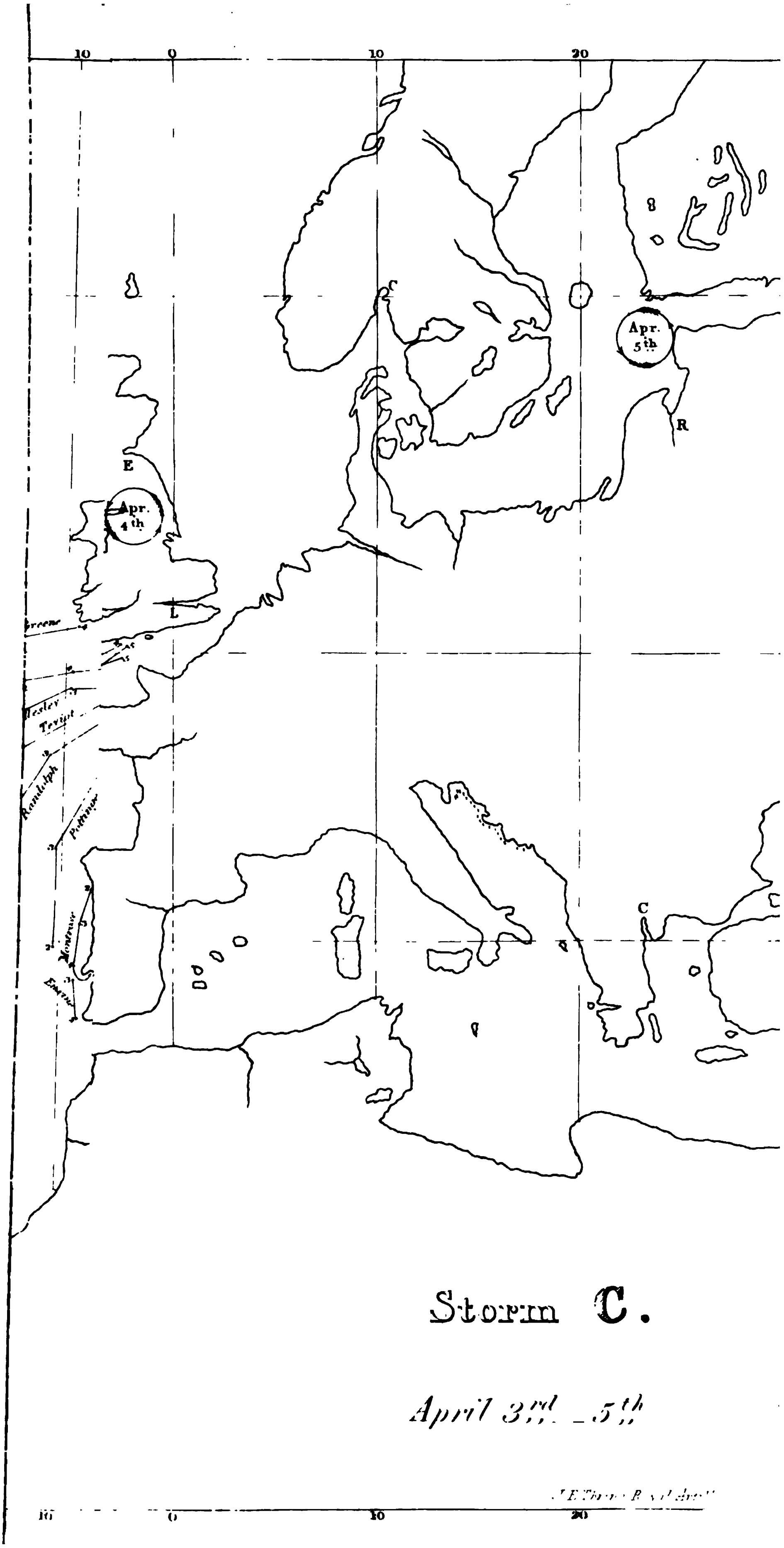
April 5th — 10th



Storm F.

April 10th – 13th

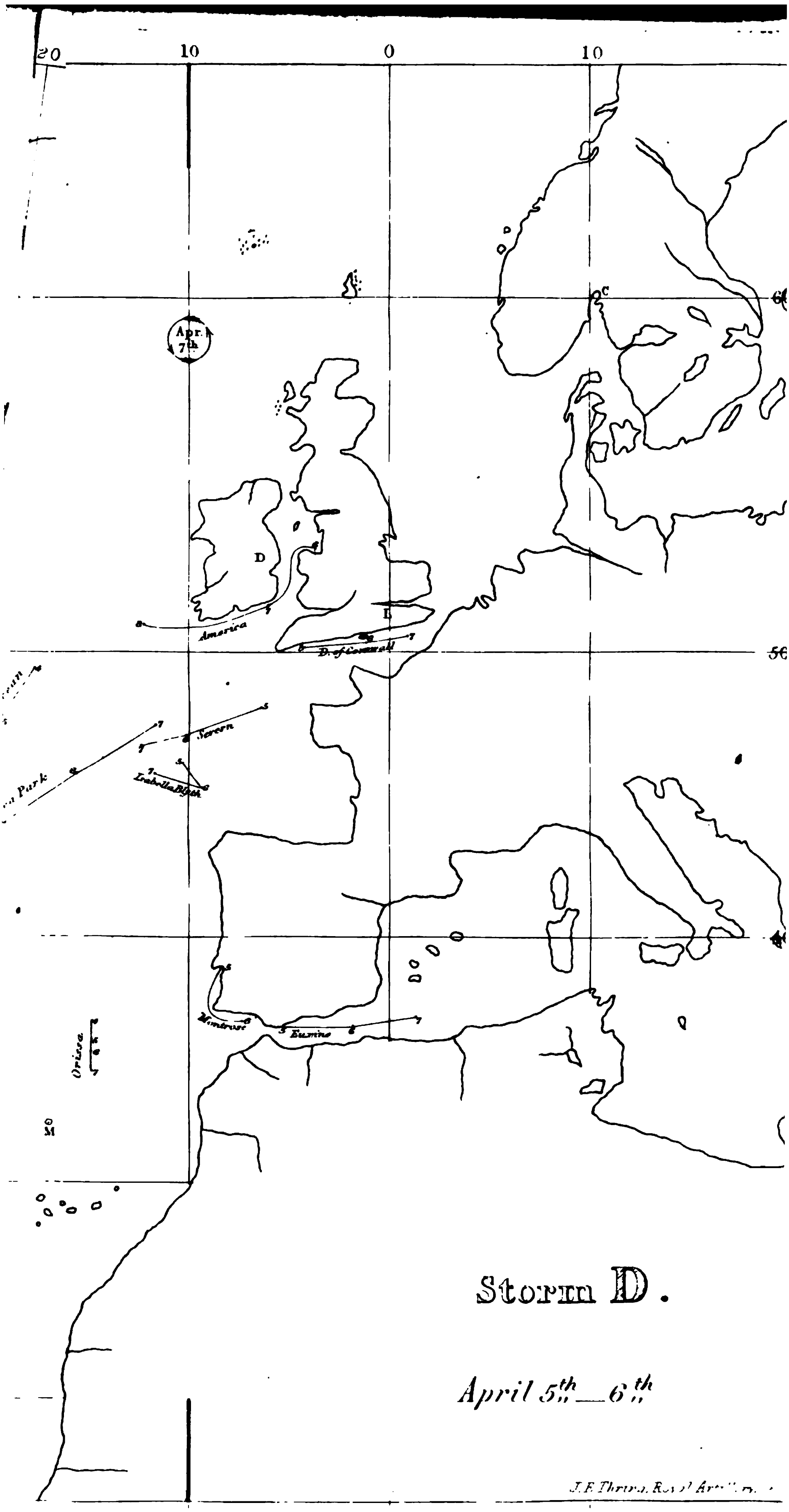
J. E. Thring, Royal Artillery, fec.



Storm C.

April 3rd _5th

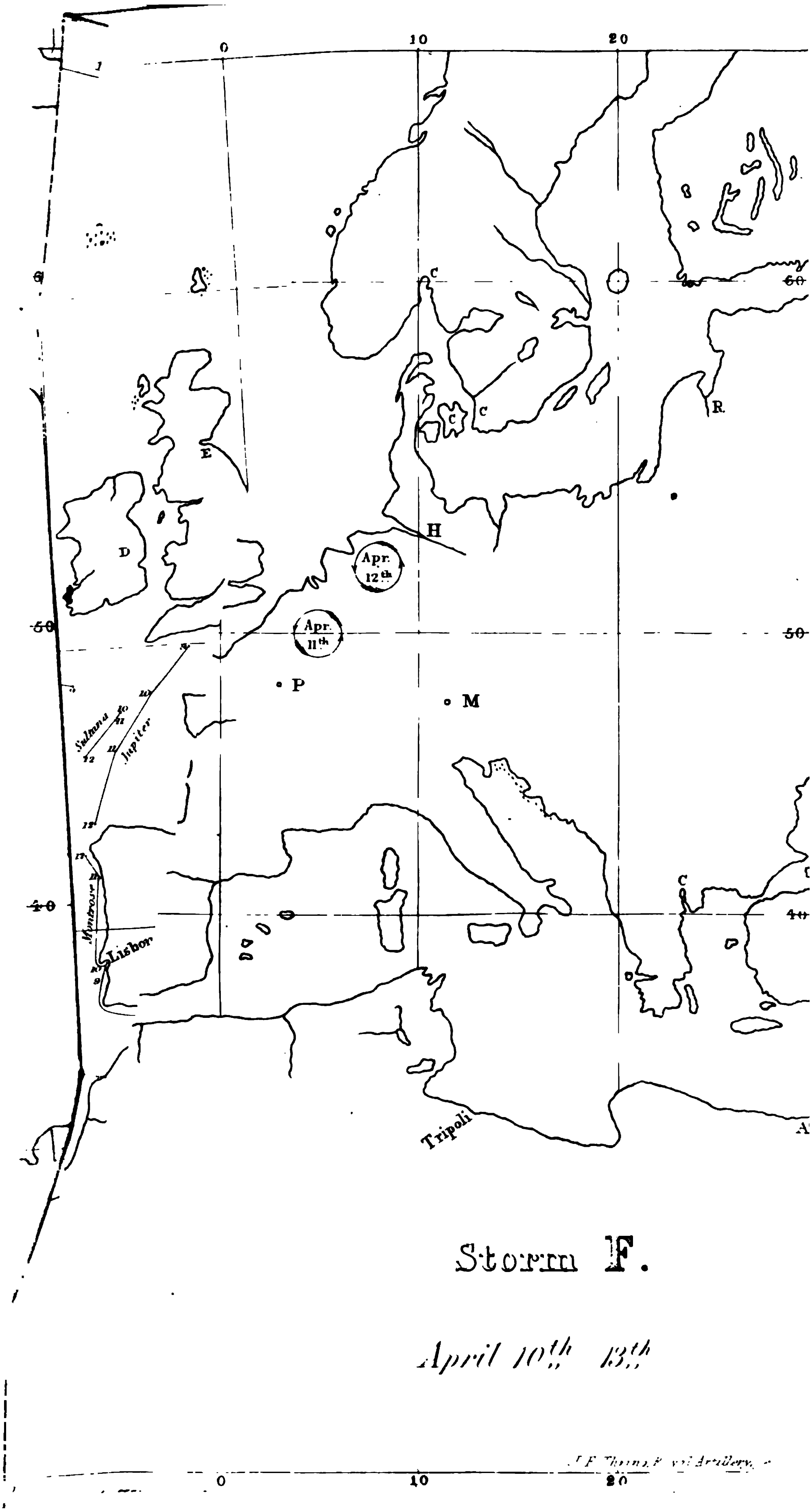
J. E. [illegible]



Storm D.

April 5th — 6th

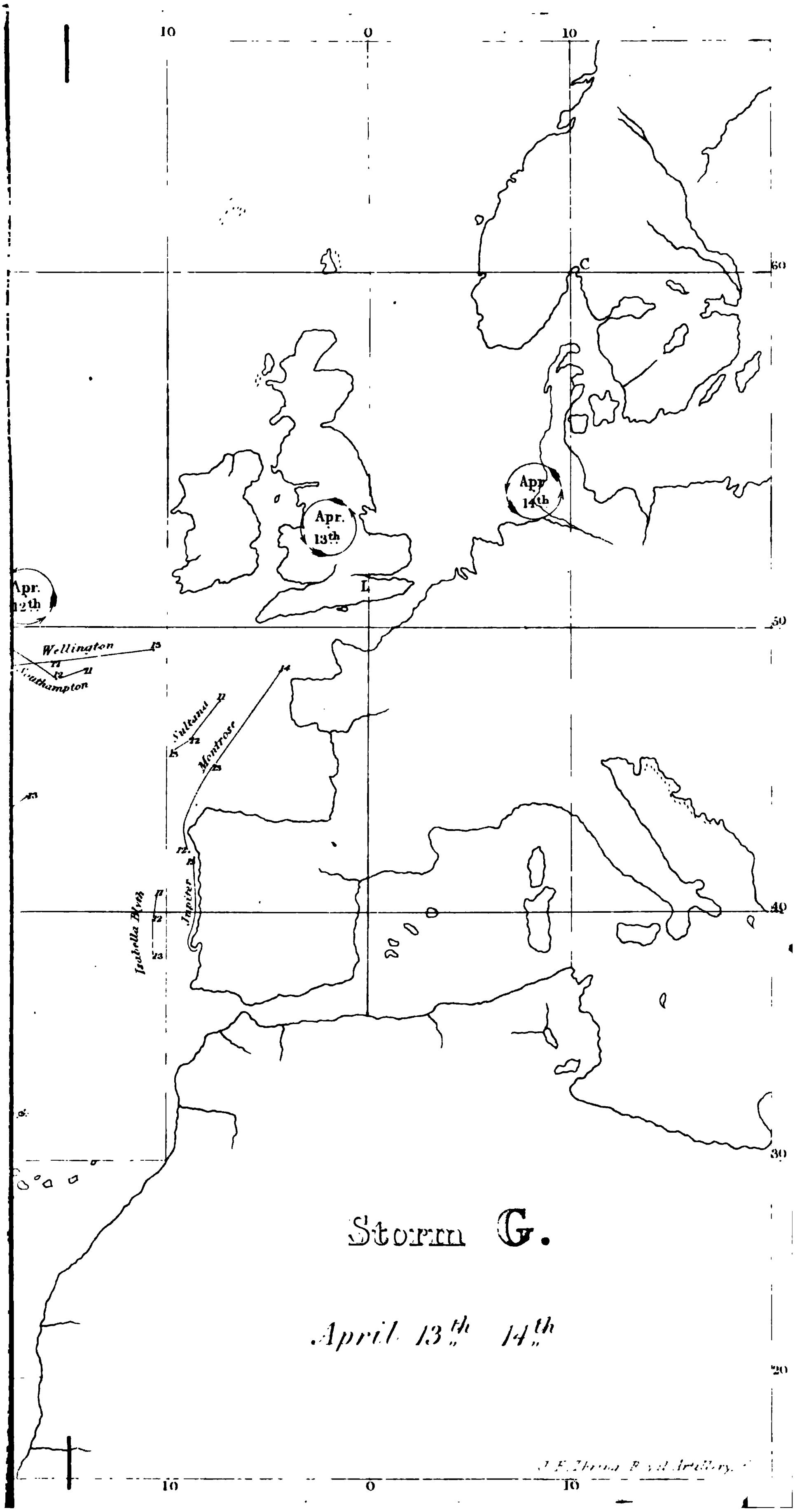
J.F. Thrupp, Royal Artillery.



Storm F.

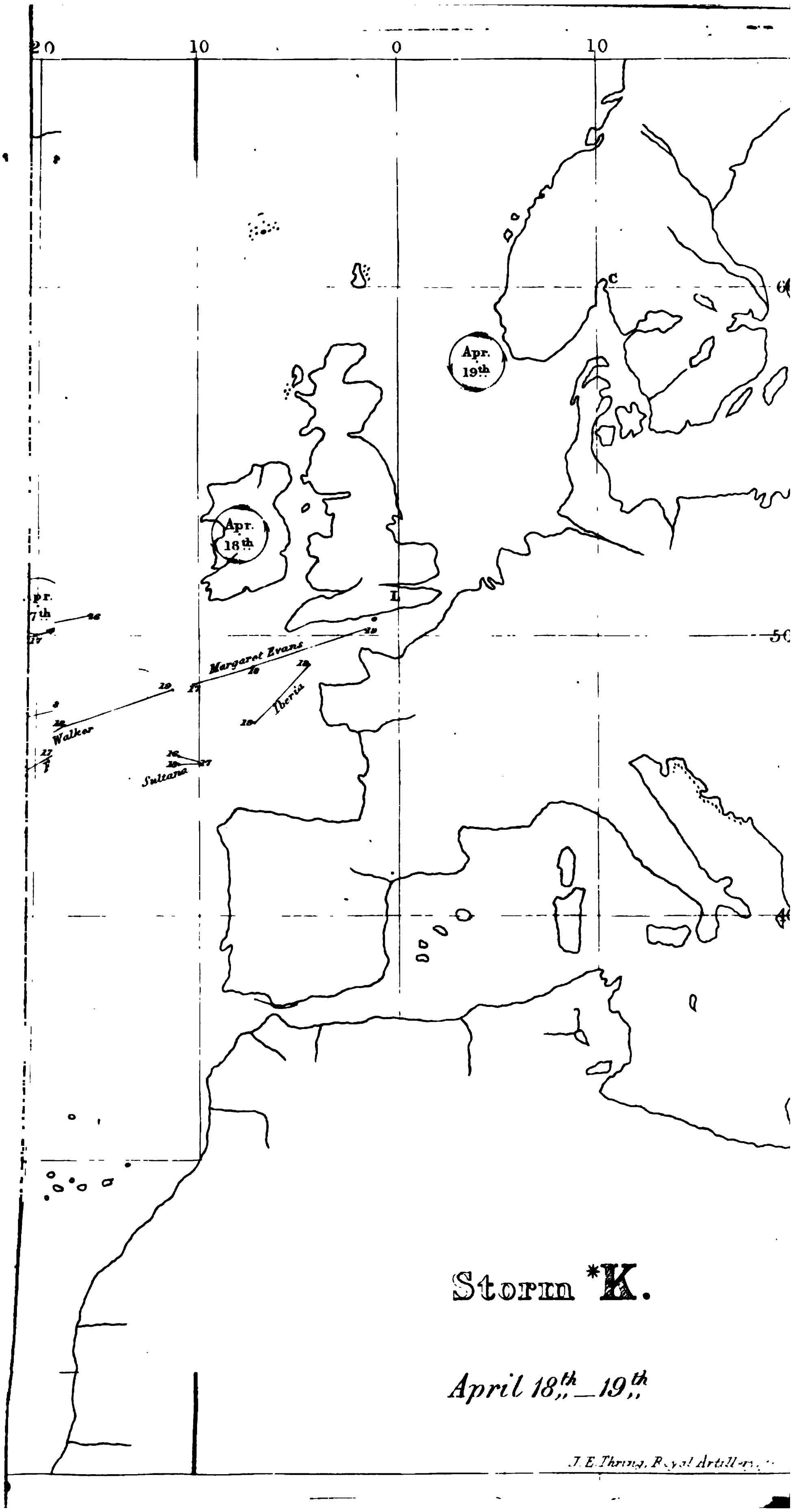
April 10th 13th

J. F. Thomas, Royal Artillery



Storm G.

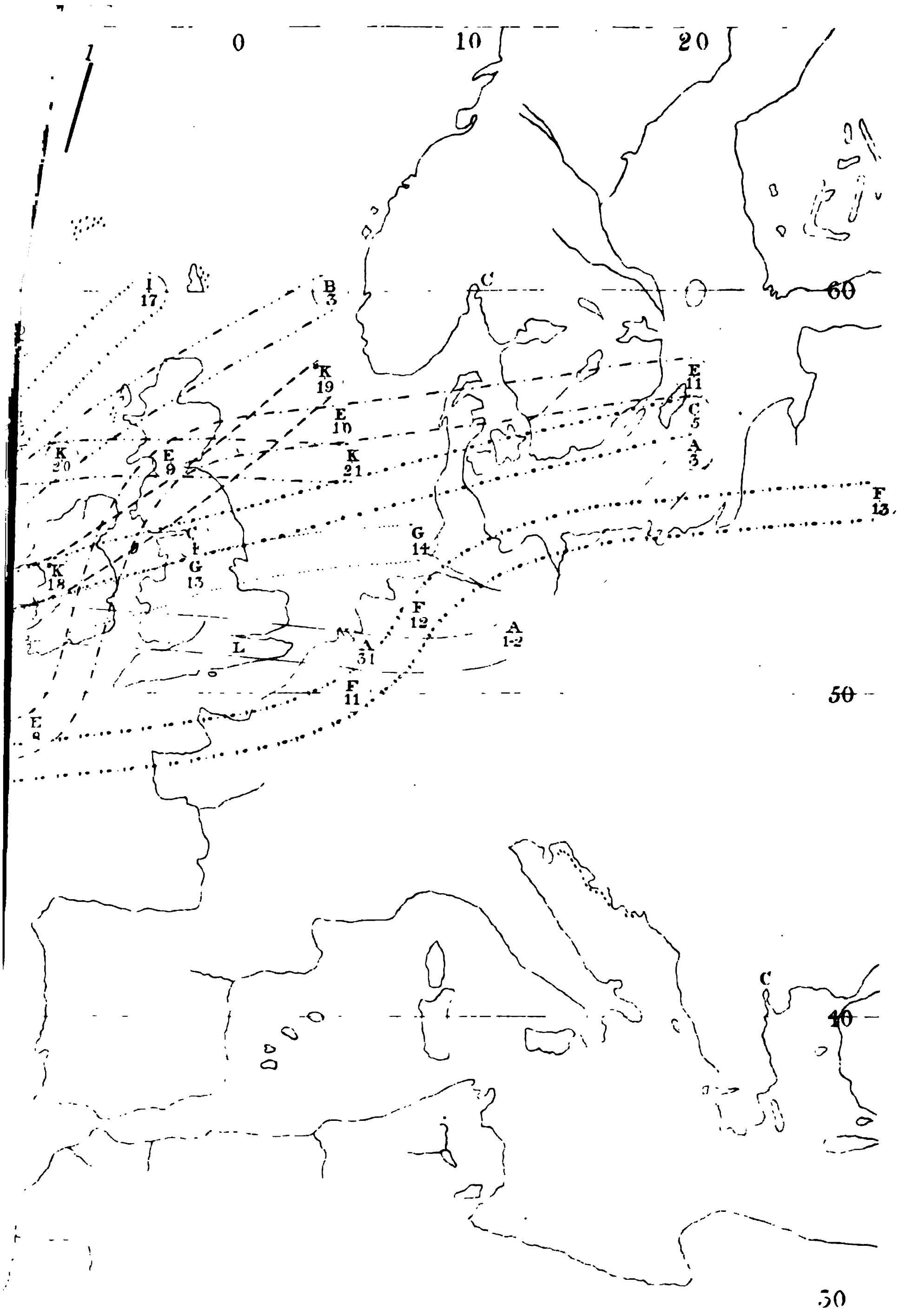
April 13th 14th



Storm *K.

April 18th–19th

J. E. Thring, Royal Artillery

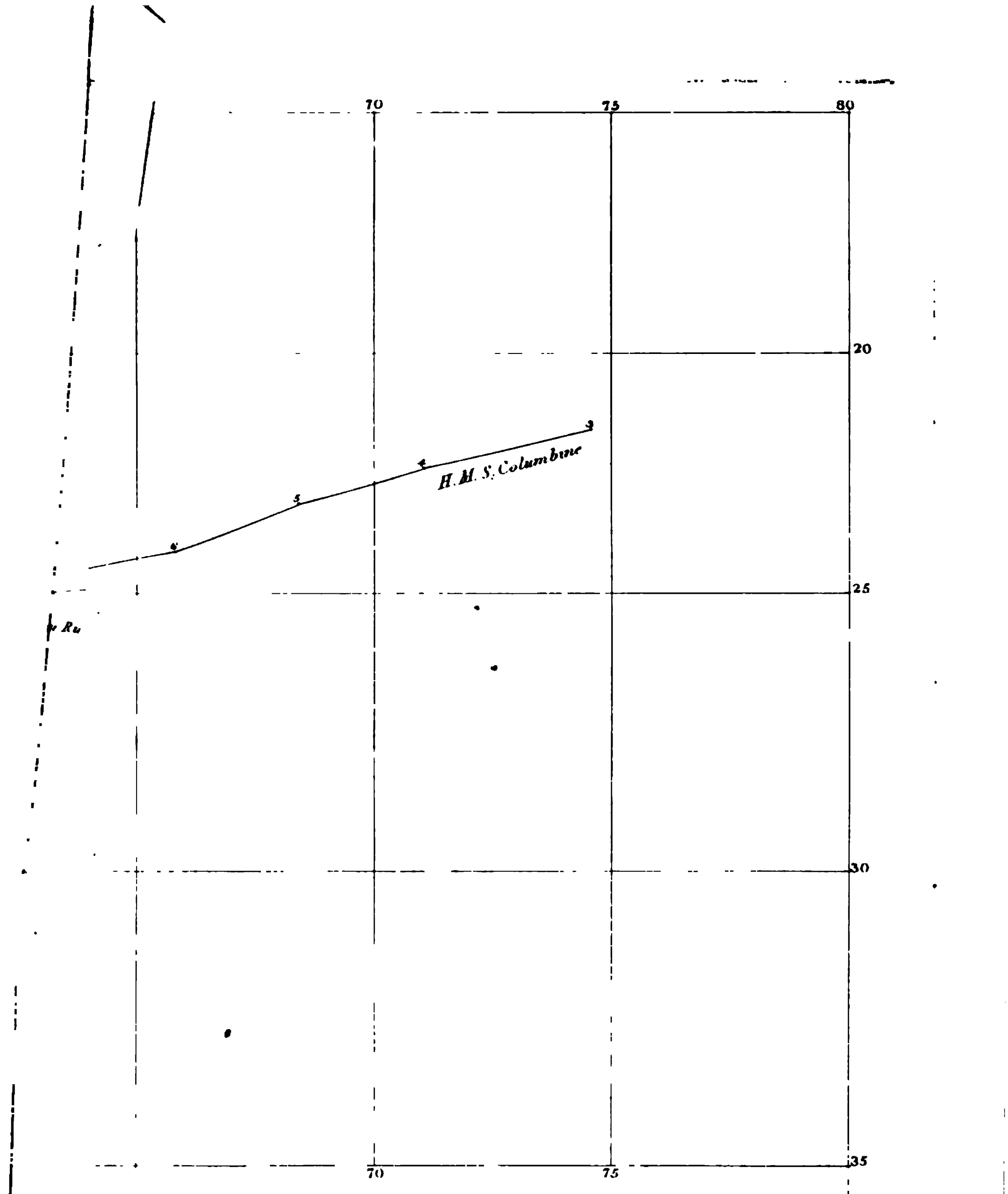


SUMMARY

of

Storm-Tracks A_K.

March 24th. April 22nd



— 1850 —

CHART
to illustrate the
CYCLONE
OF THE **LORD JOHN RUSSELL,**
Jany 1st – 4th
and the
TYPHOON
OF THE **HENRY TANNER,**
Jany 9th – 16th

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